17" Auto Scan Colour Monitor

Chassis:V30

Service
Service
Service



MODEL : V30 107T50/00

Service Manual

Horizontal frequencies
30 - 71 KHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING.

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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Important Safety Notice

Go to cover page

Proper service and repair is important to the safe, reliable operation of all PHILIPS Consumer Electronics Company** Equipment. The service procedures recommended by PHILIPS and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. PHILIPS could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, PHILIPS has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by PHILIPS must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

** Hereafter throughout this manual, PHILIPS Consumer Electronics Company will be referred to as PHILIPS.

WARNING

Critical components having special safety characteristics are identified with a ⚠ by the Ref. No. in the parts list and enclosed within a broken line*
(where several critical components are grouped in one area) along with the safety symbol ⚠ on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design.
Servicer assumes all liability.

* *Broken Line* ▬ ▪ ▬ ▪ ▬ ▪

FOR PRODUCTS CONTAINING LASER :

DANGER- Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION- The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Technical Specification*

Dimensions : 17 inch
Pitch : 0.25
Deflection angle : 90 degrees
Glass : dark
Light transmission : 50%(CPT), 52.8%(LG), 52.6%(SDI),
Surface : AGARAS
Implosion protection : CRT is provided with P-mini-rim-band.
Black matrix : Yes
Phosphor : P22
EHT : 25 KV (Ib=0)
CRT source : CPT, LG, SDI

Scanning
Horizontal scanning : 30 - 71 KHz
Vertical scanning : 50 - 160 Hz

Input signals
Video : Analog level
Sync. : Separate sync. with TTL level
Polarity : Positive or negative

Signal input level
Video : 0.7 Vp-p 75 ohms
Sync : TTL level

Impedance
Video : Terminated with 75 ohms
Sync : Terminated with 4.7K ohms pull down resistors

Video amplifiers
Dot Rate : 108 Mhz

Operating limits
Temperature : 0C to 40C
Humidity : 10 to 90% (W/O condensation)
Air pressure : 700 ~ 1100 mbar

Non-operating limits (storage)
Temperature : -25C to 65C
Humidity : 5 to 95 % (W/O condensation)
Altitude : 300 to 1100 mbar

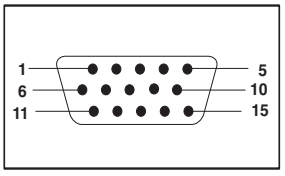
Carton box
A-1 Size (with pedestal)
496(W)416(H)556(D)

A-2 Carton paper : double wall AB flute corrugate board, color brown
Bursting : 19.3 kgf/cm^2 min
Compression : 600 kgf min

White color adjustment
Based on the 1931 CIE chromatic diagram (x,y) coordinates of white display on screen center should be:

For	9300 K	X	= 0.283	0.015	Y = 0.297	0.015
For	6500 K	X	= 0.313	0.015	Y = 0.329	0.015
For	sRGB	X	= 0.313	0.015	Y = 0.329	0.015

Pin assignment :



The 15-pin D-sub connector(male) of the signal cable :

Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	+5V DDC
2	Green video input	10	Gnd
3	Blue video input	11	Gnd
4	Gnd	12	Bidirectional Data
5	For self-test	13	H.Sync /H
6	Red video ground	14	V.Sync(VCLK for DDC)
7	Green video ground	15	Data clock line(SCL)
8	Blue video ground		

Data Storage

Factory preset modes:

This monitor has 8 factory-preset modes as indicated in the

Factory preset modes : 8

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	31.47 KHz	60Hz (VGA)	-	-
3.	640 x 480	43.3 KHz	85Hz (VESA)	-	-
4.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
5.	800 x 600	53.674KHz	85Hz (VESA)	+	+
6.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
7.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
8.	1280 x 1024	64.0 KHz	60Hz (VESA)	+	+

Automatic Power Saving

	Signal			Compliance Requirement	Power
	H-Sync	V-Sync	Video		
On	Active	Active	Active	Mandatory	<= 75w
Off	Inactive	Active	Blanked	Mandatory	<= 2 w
Off	Active	Inactive	Blanked	Mandatory	<= 2 w
Off	Inactive	Inactive	Blanked	Mandatory	<= 2 w

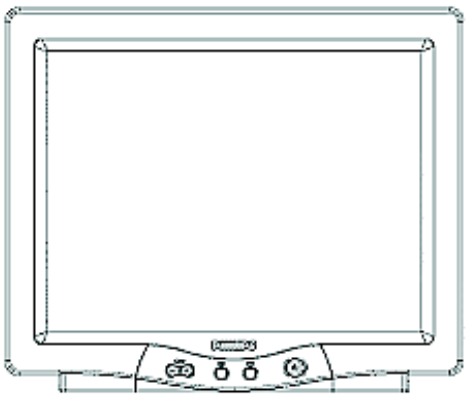
This monitor is ENERGY STAR® compliant.

this product meets the ENERGY STAR® guidelines for energy Efficiency

ENERGY STAR® is a U.S. registered mark. AS AN ENERGY STAR PARTNER, DELL Computer Corporation HAS DETERMINED THAT THIS PRODUCT MEETS THE ENERGY STAR GUIDELINES FOR ENERGY EFFICIENCY.

Front control & OSD

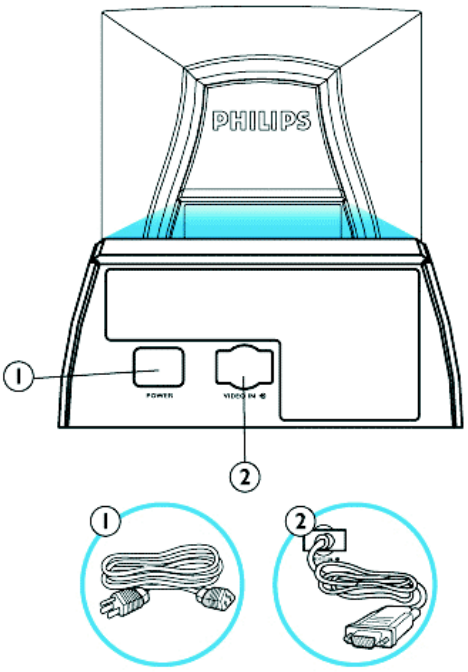
Front View



107F5/T5



Rear view



1. Power in - attach power cable here.
2. Video In - this is a cable which is already attached to your monitor. Connect the other end of the cable to your PC.

Description of the On Screen Display

What is the On-Screen Display?

This is a feature in all Philips monitors which allows an end-user to adjust screen performance of monitors directly though an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

Basic and simple instruction on the control keys.

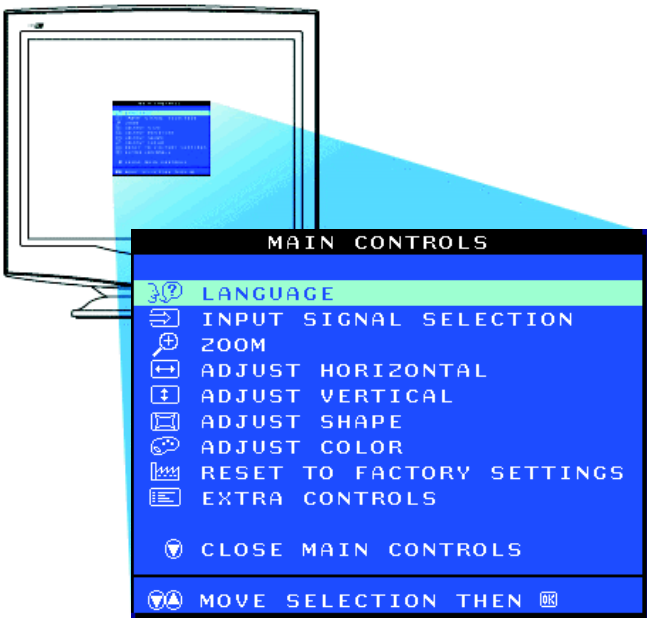
On the front controls of your monitor, once you press the OK button, the On Screen Display (OSD) Main Controls window will pop up and you can now start making adjustments to your monitor's various features.

Use the − + the keys to make your adjustments within.

Front control



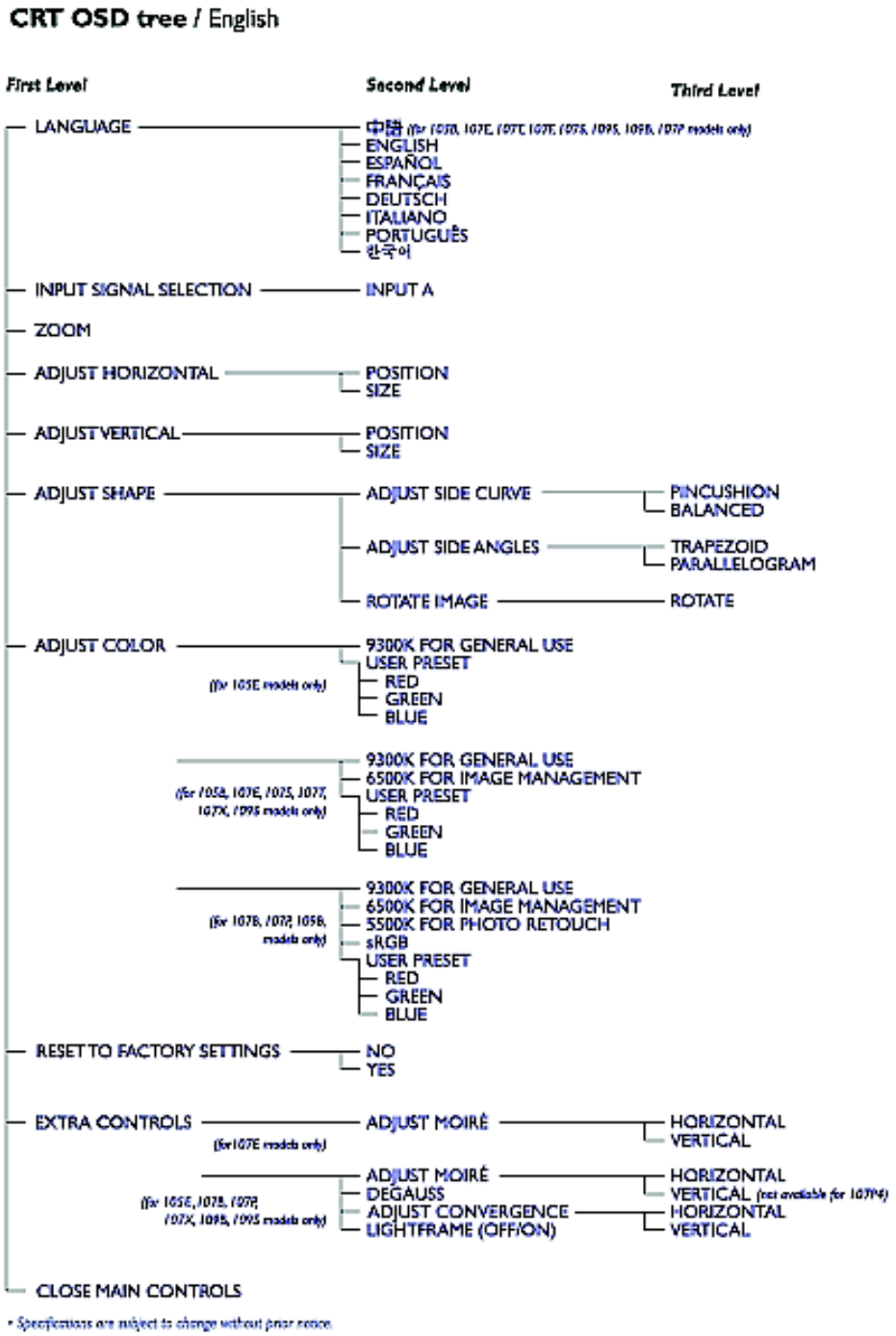
- Power button switches your monitor on.
- OK button which when pressed will take you to the OSD controls
- Contrast hotkey. When the "-" button is pressed, the adjustment controls for the CONTRAST will show up.
- Brightness hotkey. When the "+" button is pressed, the adjustment controls for BRIGHTNESS will show up.
- "-" and "+" buttons, are used for adjusting the OSD of your Monitor.
- LightFrame hotkey. When the button is pressed, the adjustment controls for LightFrame will show up.



OSD menu tree

The OSD Tree

Below is an overall view of the structure of the On-Screen Display. You can use this as reference when you want to later on work your way around the different adjustments.



OSD Adjustments

Go to cover page

The OSD Controls

BRIGHTNESS

To adjust your screen's brightness, follow the steps below. Brightness is the overall intensity of the light coming from the screen. A 50% brightness is recommended.

1) Press the button on the monitor. The BRIGHTNESS window appears.



2) Press the or button to adjust the brightness.

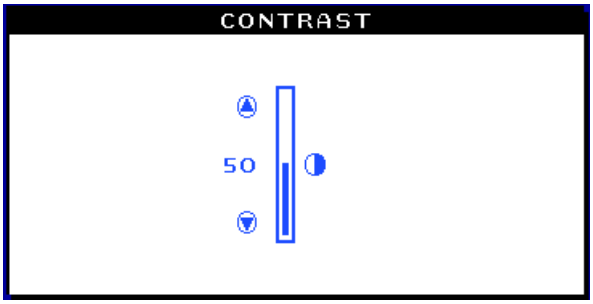
3) When the brightness is adjusted to the level desired, stop pressing the or button and after three seconds the BRIGHTNESS window will disappear with the new adjustment saved.

Smart Help After the BRIGHTNESS window has disappeared, to continue to the CONTRAST window, follow the steps under CONTRAST.

CONTRAST

To adjust your screen's contrast, follow the steps bellow. Contrast is the difference between the light and dark areas on the screen. A 100% contrast is recommended.

1) Press the button on the monitor. The CONTRAST window appears.



2) Press the or button to adjust the contrast.

3) When the contrast is adjusted to the level desired, stop pressing the Button and after three seconds the CONTRAST window will disappear with the new adjustment saved.

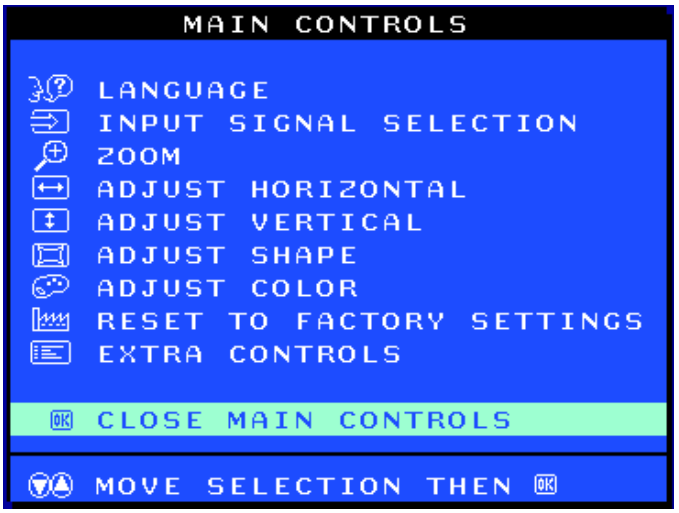
Smart Help After the CONTRAST window has disappeared, to continue to the MAIN CONTROLS, follow the steps under LANGUAGE

LANGUAGE

The ON SCREEN DISPLAY shows its settings in one of eight languages. The default is English, but you can select French, Spanish, German, Italian, Simplify-Chinese, Korea, Brazilian or Portuguese.

1) Press the button on the monitor. The MAIN CONTROLS window appears. LANGUAGE should be highlighted.

2) Press the button again. The LANGUAGE window appears.



3) Press the or button until the desired language is highlighted.



4) Press the button to confirm your selection and return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted...

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to INPUT SIGNAL SELECTION, press the button until INPUT SIGNAL SELECTION is highlighted. Next, follow steps 3 - 5 under INPUT SIGNAL SELECTION.

. . . to exit completely, press the button

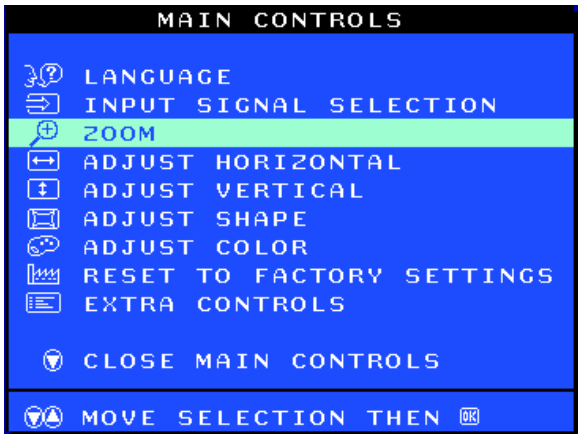
OSD Adjustments (Continued)

ZOOM

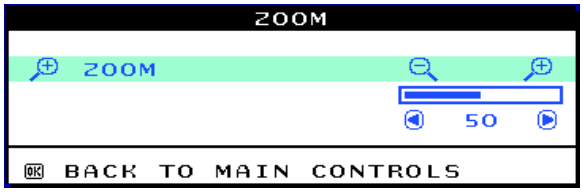
ZOOM increases or decreases the size of the images on your screen. To adjust the ZOOM follow the steps below.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ZOOM is highlighted.



3) Press the button. The ZOOM window appears.



4) Press the or button to adjust ZOOM.

5) Press the button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to ADJUST HORIZONTAL, press the button until ADJUST HORIZONTAL is highlighted. Next, follow steps 3 - 7 under ADJUST HORIZONTAL.

. . . to exit completely, press the button

ADJUST HORIZONTAL

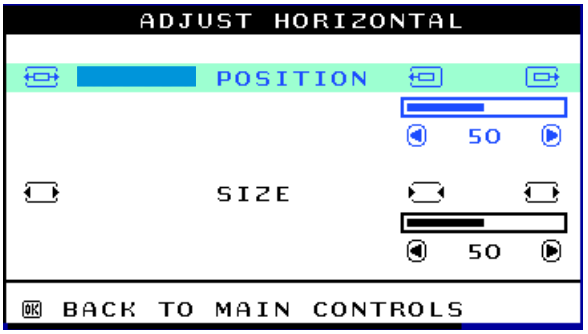
ADJUST POSITION under ADJUST HORIZONTAL shifts the image on your screen either to the left or right. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST HORIZONTAL expands or controls the image on your screen, pushing it out toward the left and right sides or pulling it in toward the center.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST HORIZONTAL is highlighted.

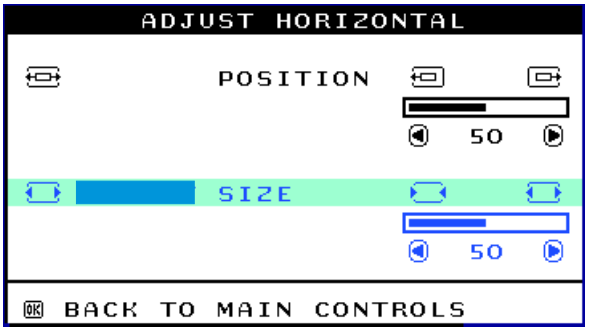


3) Press the button. The ADJUST HORIZONTAL window appears. ADJUST POSITION should be highlighted.



4) Press the or button to move the image to the left or right.

5) When the position is adjusted, press the button to return to MAIN CONTROLS window, or press the to highlight ADJUST SIZE.



6) To adjust the horizontal size, press the or button.

7) When the size is adjusted, press the button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to ADJUST VERTICAL, press the button until ADJUST VERTICAL is highlighted. Next, start with step 3 under ADJUST VERTICAL and follow the directions.

. . . to exit completely, press the button

ADJUST VERTICAL

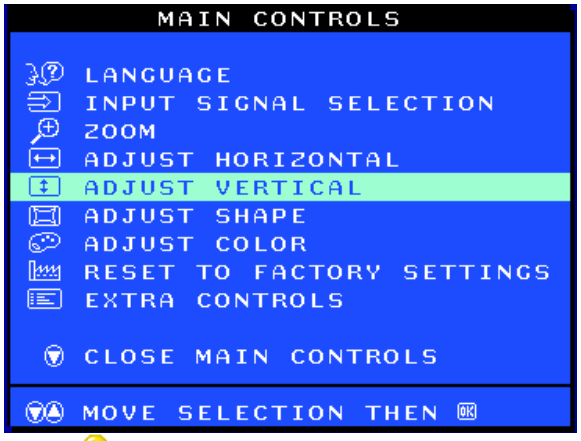
ADJUST POSITION under ADJUST VERTICAL shifts the image on your screen either up or down. Use this feature if your image does not appear centered. ADJUST SIZE under ADJUST VERTICAL expands or controls the image on your screen, pushing it out toward the top or bottom or pulling it in toward the center.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

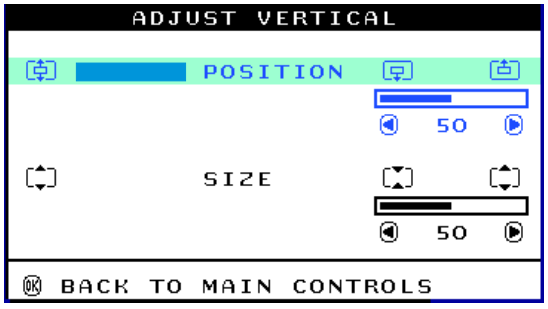
OSD Adjustments (Continued)

Go to cover page

2) Press the button until ADJUST VERTICAL is highlighted.

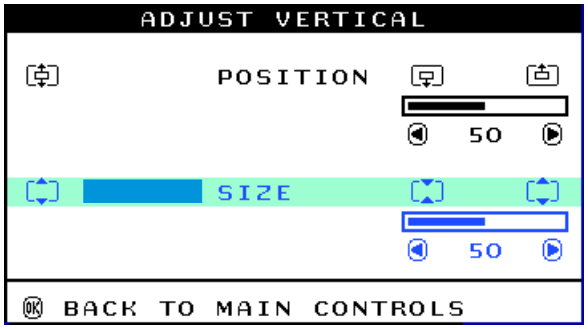


3) Press the button. The ADJUST VERTICAL window appears. ADJUST POSITION should be highlighted.



4) Press the or button to move the image up or down.

5) When the position is adjusted, press the button to return to MAIN CONTROLS window, or press the button to highlight ADJUST SIZE.



6) To adjust the vertical size, press the or button.

7) When the size is adjusted, press the button to return to MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to ADJUST SHAPE, press the button until ADJUST SHAPE is highlighted. Next, start with step 3 under ADJUST SHAPE and follow the directions.

. . . to exit completely, press the button

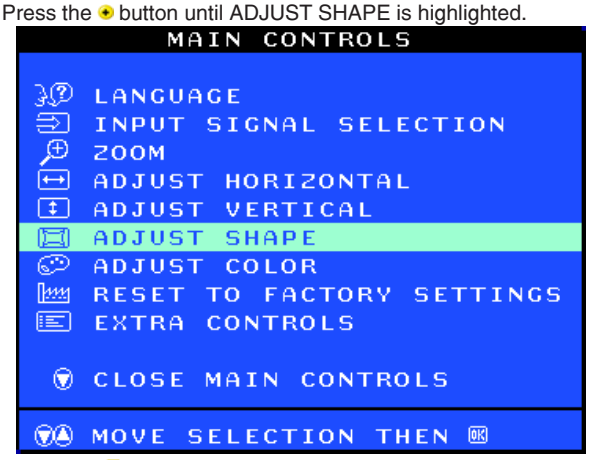
ADJUST SHAPE

ADJUST SIDE CURVE

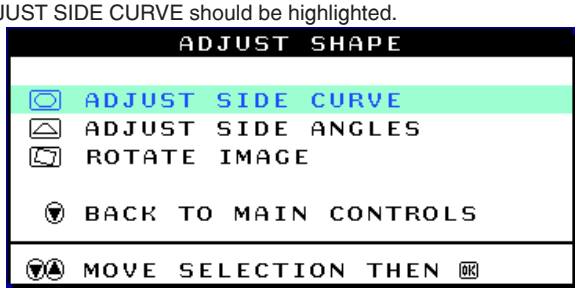
ADJUST SIDE CURVE under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use these features only when the picture is not square.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

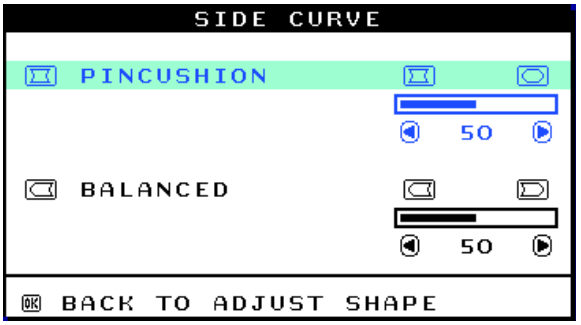
2) Press the button until ADJUST SHAPE is highlighted.



3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

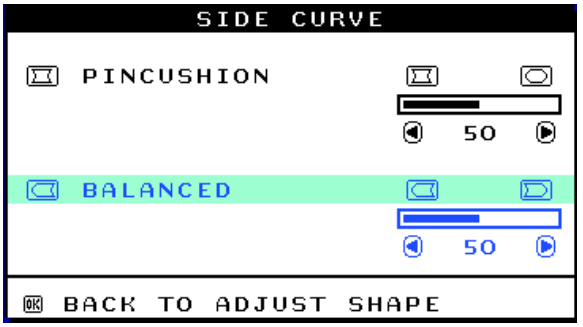


4) Press the button. The SIDE CURVE window appears. PINCUSHION should be highlighted.



5) To adjust the pincushion, press the or button.

6) When the pincushion is adjusted, press the button to highlight BALANCED or press the button to return to the ADJUST SHAPE window.



7) To adjust the balanced pincushion, press the or button.

8) When the balanced pincushion is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

9) Press the button to return to the MAIN CONTROLS window, or press the button until ADJUST SIDE ANGLES is highlighted.

OSD Adjustments (Continued)

Go to cover page

Smart Help After returning to MAIN CONTROLS . . .

...to continue to ADJUST SIDE ANGLES, start with step 5 under ADJUST SIDE ANGLES and follow the directions.

...to exit completely, press the button twice.

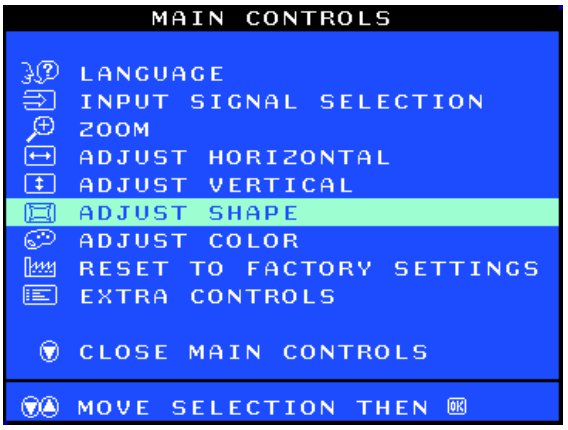
...to adjust only the BALANCED pincushion, follow steps 1 - 4 above, then press the button, and follow steps 7 - 9.

ADJUST SIDE ANGLES

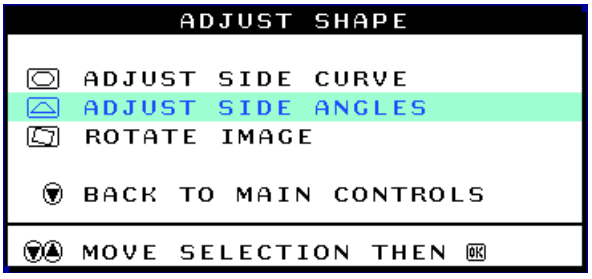
ADJUST SIDE ANGLES under ADJUST SHAPE allows you to adjust two of the five preset options. These two options are TRAPEZOID and PARALLELOGRAM. Note: use these features only when the picture is not square.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST SHAPE is highlighted.

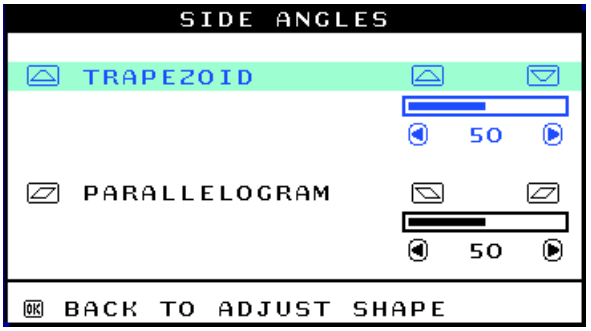


3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.



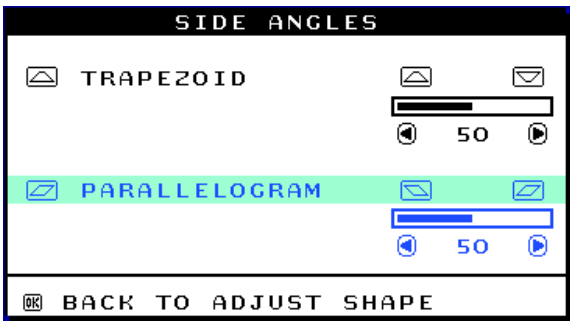
4) Press the button to highlight ADJUST SIDE ANGLES.

5) Press the button. The SIDE ANGLES window appears. TRAPEZOID should be highlighted.



6) To adjust the trapezoid, press the or button.

7) When the trapezoid is adjusted, press the button to highlight PARALLELOGRAM or press the button to return to the ADJUST SHAPE window.



8) To adjust the parallelogram, press the or button.

9) When the parallelogram is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN WINDOWS will be highlighted.

10) Press the button to return to the MAIN CONTROLS window, or press the button until ROTATE IMAGE is highlighted.

Smart Help After returning to MAIN CONTROLS . . .

...to continue to ROTATE IMAGE, start with step 5 under ROTATE IMAGE and follow the directions.

...to exit completely, press the button twice.

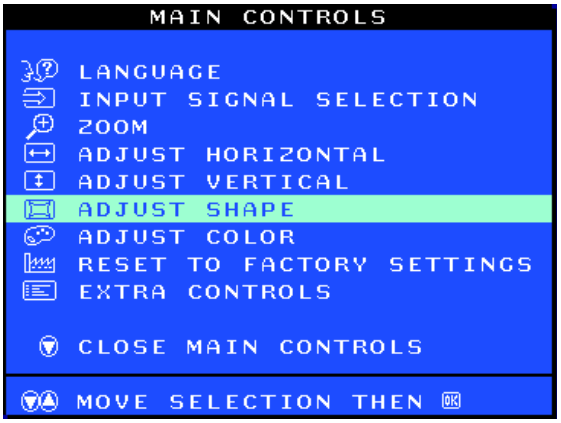
...to adjust only the PARALLELOGRAM, follow steps 1 - 4 above, then press the button, and follow steps 7 -9

ROTATE IMAGE

ROTATE IMAGE under ADJUST SHAPE allows you to adjust one of the five preset options. These two options are PINCUSHION and BALANCED pincushion. Note: use this feature only when the picture is not square.

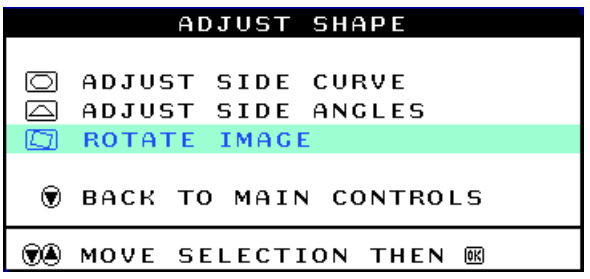
1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST SHAPE is highlighted.



3) Press the button. The ADJUST SHAPE window appears. ADJUST SIDE CURVE should be highlighted.

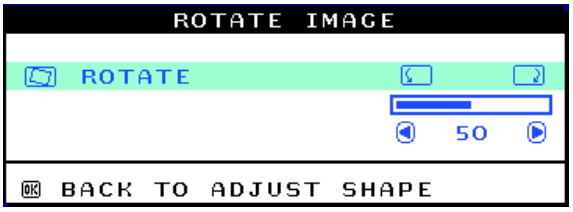
4) Press the arrow until ROTATE IMAGE is highlighted.



OSD Adjustments (Continued)

Go to cover page

5) Press the button. The ROTATE IMAGE window appears. ROTATE should be highlighted.



6) To adjust the rotation, press the or button.

7) When the rotation is adjusted, press the button to return to the ADJUST SHAPE window. BACK TO MAIN CONTROLS should be highlighted.

8) Press the button to return to MAIN CONTROLS.

Smart Help After returning to MAIN CONTROLS . . .
. . . to continue to ADJUST COLOR, press the button until ADJUST COLOR is highlighted. Next, start with step 3 under ADJUST COLOR and follow the directions.

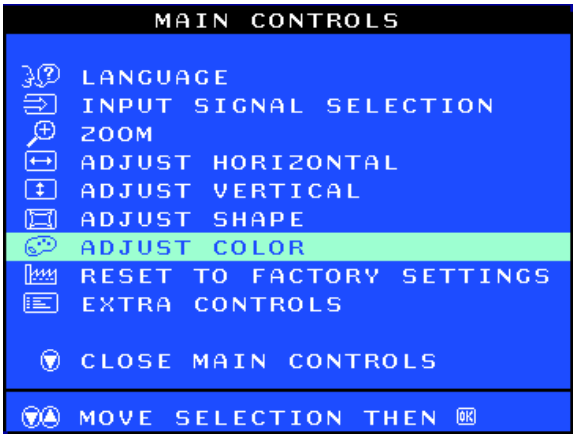
...to exit completely, press the button twice.

ADJUST COLOR

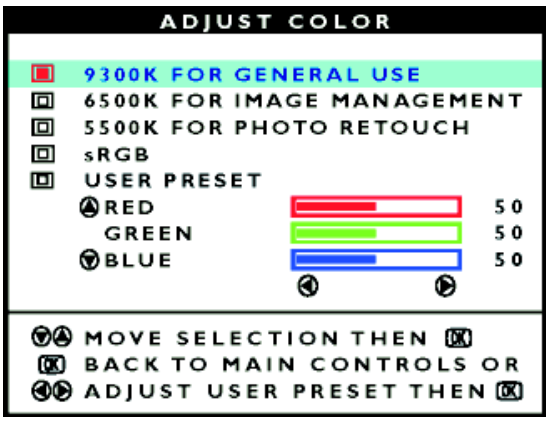
Your monitor has two preset options you can choose from. The first option is for GENERAL USE, which is fine for most applications. The second option is for GAMES, which is for playing computer games. When you select one of these options, the monitor automatically adjusts itself to that option. There is also a third option, USER PRESET, which allows you to adjust the colors on your screen to a setting you desire.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until ADJUST COLOR is highlighted.

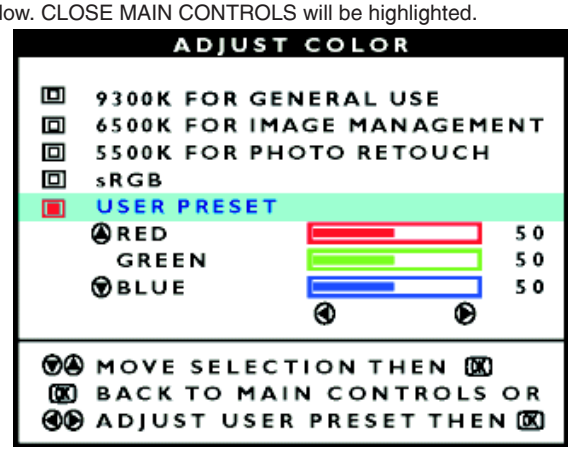


3) Press the button. The ADJUST COLOR window appears.



4) Press the or button to highlight 9300K for GENERAL USE, 6500K for GAMES, or USER PRESET.

5) Once you have highlighted GENERAL USE or GAMES, press the button to confirm you selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.



6a) If USER PRESET is highlighted, press the button to highlight RED. Next, press the LEFT CURSOR or RIGHT CURSOR button to adjust the color red.

6b) When finished with RED, press the button to highlight GREEN.

Next, press the or button to adjust the color green.

6c) When finished GREEN, press the button to highlight BLUE.

Next, press the or button to adjust the color blue.

6d) When all adjustments are complete, press the button to confirm your adjustments and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS. . .

. . . to continue to RESET TO FACTORY SETTINGS, press the button until RESET TO FACTORY SETTINGS is highlighted. Next, start with step 3 under RESET TO FACTORY SETTINGS.

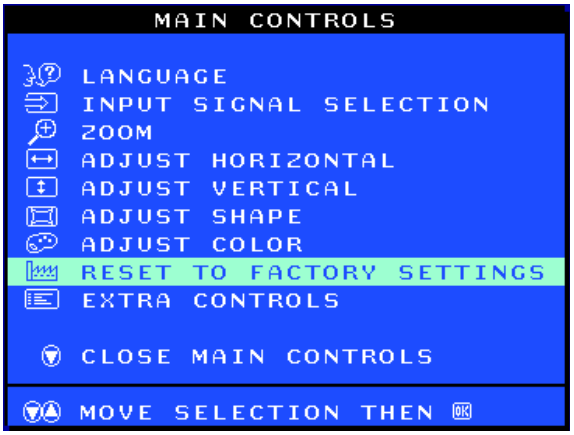
. . . to exit completely, press the button.

RESET TO FACTORY SETTINGS

RESET TO FACTORY SETTINGS returns everything in all the windows to factory presets.

1) Press the button on the monitor. The MAIN CONTROLS window appears.

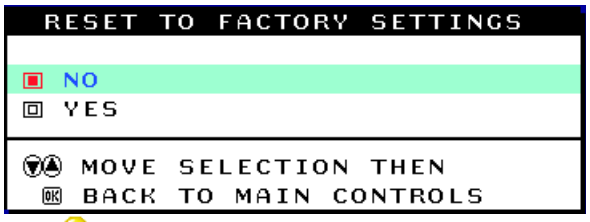
2) Press the button until RESET TO FACTORY SETTINGS is highlighted.



3) Press the button. The RESET TO FACTORY SETTINGS window appears.

OSD Adjustments (Continued)

4) Press the − or + button to select YES or NO. NO is the default. YES returns all settings to their original factory adjustments.



5) Press the ⊡ button to confirm your selection and return to the MAIN CONTROLS window. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to EXTRA CONTROLS, press the − button until EXTRA CONTROLS is highlighted. Next, start with step 3 under EXTRA CONTROLS.

. . . to exit completely, press the ⊡ button.

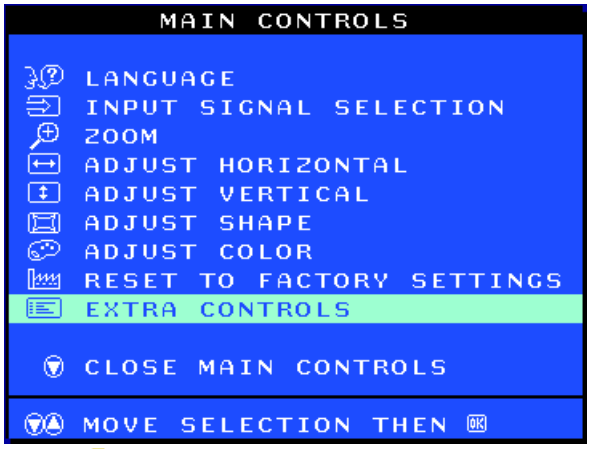
EXTRA CONTROLS

ADJUST MOIRE

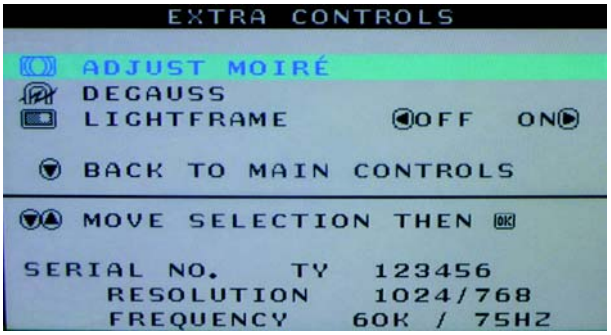
EXTRA CONTROLS is a set of three features, including ADJUST MOIRE. Moire is a fringe pattern arising from the interference between two superimposed line patterns. To adjust your moire, follow the steps below. Note: Use only if necessary. By activating ADJUST MOIRE, sharpness can be affected.

1) Press the ⊡ button on the monitor. The MAIN CONTROLS window appears.

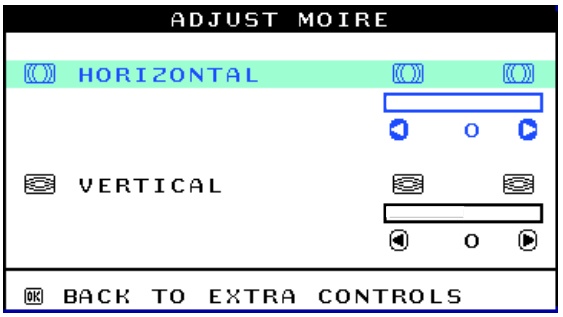
2) Press the DOWN CURSOR button until EXTRA CONTROLS is highlighted.



3) Press the ⊡ button. The EXTRA CONTROLS window appears. will ADJUST MOIRE will be highlighted.

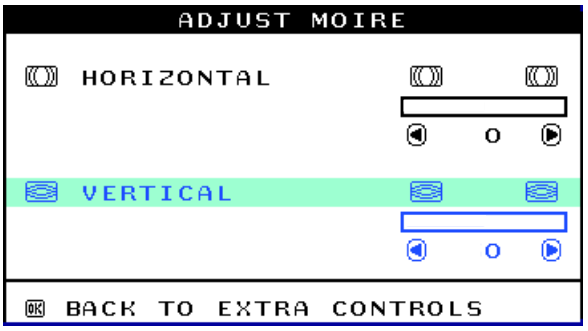


4) Press the ⊡ button. The ADJUST MOIRE window appears. HORIZONTAL will be highlighted.



5) To adjust the horizontal moire, press the − or + button.

6) When the horizontal moire is adjusted, press the − button to highlight VERTICAL.



7) To adjust the vertical moire, press the − or + button.

8) When the vertical moire is adjusted, press the ⊡ button to return to the EXTRA CONTROLS window. BACK TO MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to continue to DEGAUSS, press the − button until DEGAUSS is highlighted. Next, start with step 3 under EXTRA CONTROLS, DEGAUSS.

. . . to exit completely, press the ⊡ button.

DEGAUSS

EXTRA CONTROLS is a set of three features, including DEGAUSS. Degaussing removes electromagnetic build up that may distort the color on your screen.

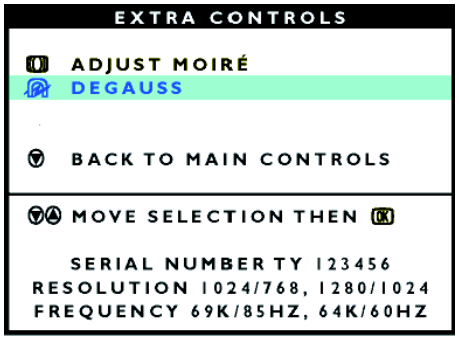
1) Press the button on the monitor. The MAIN CONTROLS window appears.

2) Press the button until EXTRA CONTROLS is highlighted.



3) Press the button. The EXTRA CONTROLS window appears. ADJUST MOIRE will be highlighted.

4) Press the button until DEGAUSS is highlighted.



5) To degauss your screen, press the button. Your screen will be degaussed, then the MAIN CONTROLS window will reappear. CLOSE MAIN CONTROLS will be highlighted.

Smart Help After returning to MAIN CONTROLS . . .

. . . to exit completely, press the button.

CLOSE MAIN CONTROLS



Monitor Specific Troubleshooting

Self-Test Feature Check (STFC)

Your monitor provides a self-test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark, run the monitor self-test by performing the following steps:

1. Turn off both your computer and the monitor.
2. Unplug the video cable from the back of the computer.
3. Turn on the monitor.

If the monitor is functioning properly, you will see a OSD message as shown in the following illustration:



This box also appears during normal system operation if the video cable becomes disconnected or damaged. This box will remain on for one minute, go off five seconds, then on for one minute, and will repeat cycle.

1. Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.
2. While in self-test mode, the LED remains green and the pattern remains on and stationary.

If your monitor screen still remains dark after you use the previous procedure, check your video controller and computer system; your monitor is functioning properly.

NO SIGNAL INPUT

If there is something wrong with the input signal, a message appears on the screen although the power indicator LED is still on. The message may indicate that the monitor is NO SIGNAL INPUT or that you need to check the signal cable.



Lock/Unlock, Factory Mode, Burn In, Service Mode

OSD Lock

OSD lock is a feature which disables the OSD controls. It can be used when the monitor is set up for demonstration purposes or when adjustment of the OSD is not desirable.

Switch on OSD lock feature:

Press and hold the button continuously for 15 seconds.

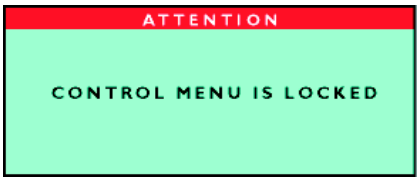
Release the button when the message "CONTROL MENU IS LOCKED" appears.





Switch off OSD lock feature:

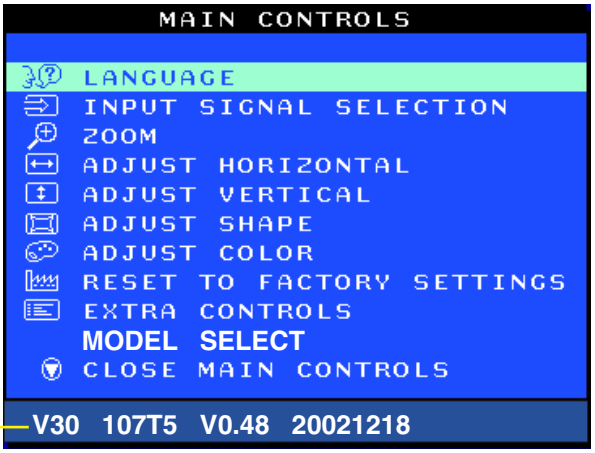
Press and hold the button continuously for 15 seconds or until the message window "CONTROL MENU IS LOCKED" disappears, and "MAIN CONTROLS" appears.





To access factory mode

1. Turn off monitor (don't turn off PC)
2. Press '" " and " " simultaneously on the front control panel,then press " ",wait till the OSD menu with characters V30 107T5 V0.48 20021218 (below OSD menu)" come on the screen of monitor.



Factory Mode Indicator

3. If OSD menu disappears on the screen of monitor, press " " again (anytime), then the OSD menu comes on the screen again.
4. Using " " : to select OSD menu.
5. Using " " : to increase or decrease the setting.
6. Using " " to access/confirm the selection.

To leave factory mode

7. After alignment of factory mode, turn off monitor (if you do not turn off monitor, the OSD menu is always at the factory mode), then turn on monitor again (at this moment, the OSD menu goes back to user mode).

To access BURN IN mode

First of all, monitor displays an image.

1. Disconnect the video cable (interface cable).
2. Turn off monitor
3. Press '" " and " " simultaneously on the front control panel,then the BURN IN mode comes on the screen of monitor as below.

50 seconds around



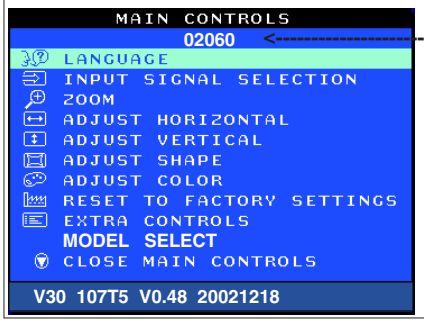
5 seconds around



repeatly

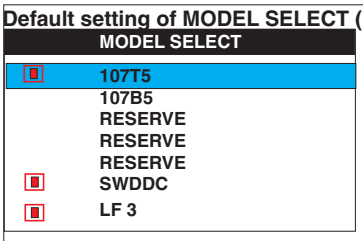
4. **Reconnect the video cable, then return to normal image.**

SERVICE MODE (Indication-Factory mode)



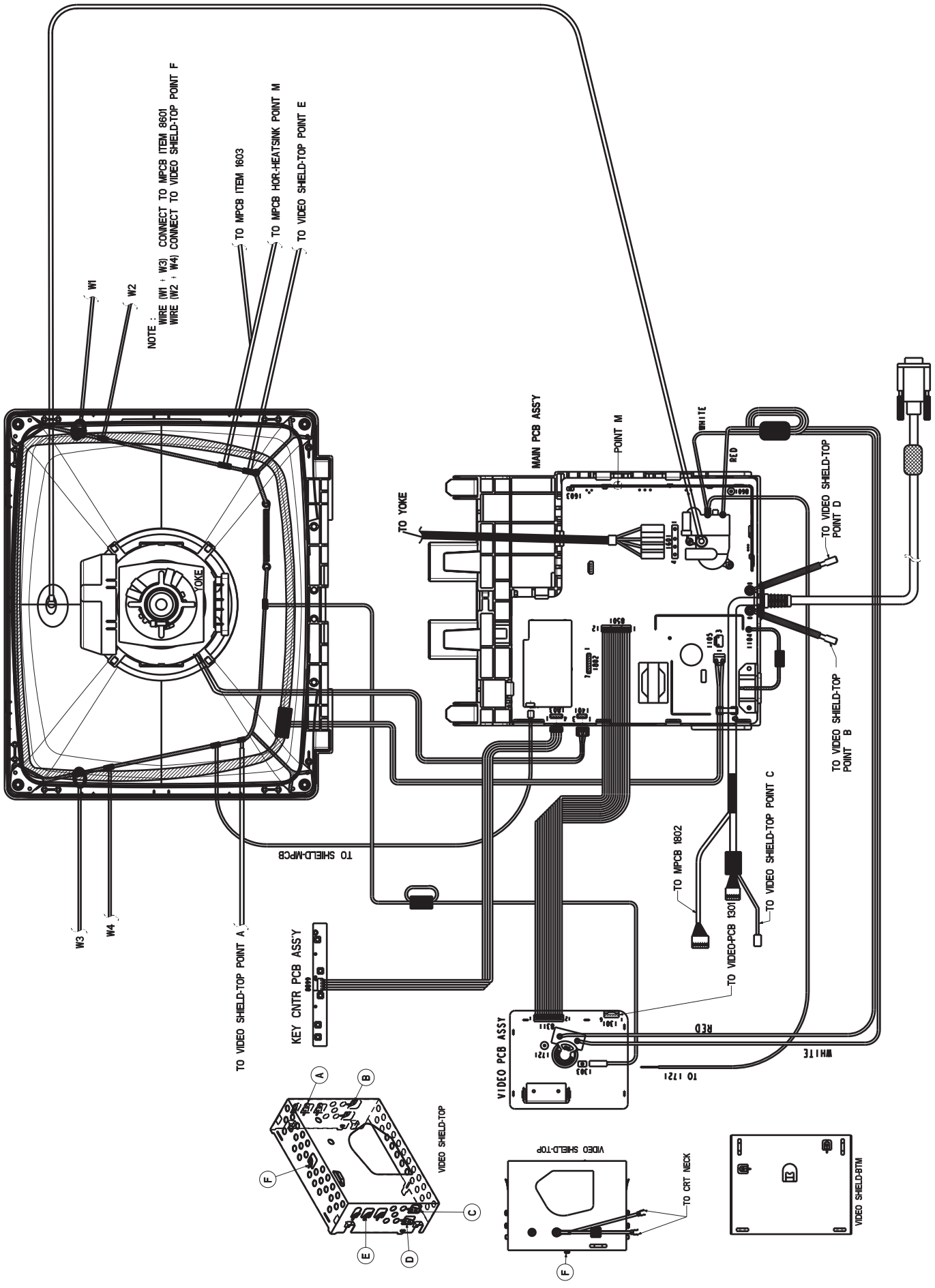
02060: stands for
1. using 10 hours already.
2. turn on/off 10 times.
3. using several hours + turn on/off monitor.

Default setting of MODEL SELECT (Do not change it.)



Wiring Diagram

Go to cover page



Mechanical Instructions

0. General
To be able to perform measurements and repairs on the "circuit boards", these unit should placed in the service position first.

1.Remove the rear cover in Fig. 1.
-Remove 2 screws as shown
-Remove back cover as shown
-Remove pedestal as shown

2. Video panel
- Disconnect the wire between metal shield of Video panel and CRT neck as shown in Fig. 2.
- Disconnect the CRT ground from Video panel.
- Remove screw grounding and grounding wire in Fig. 3.

3.Main board connector in Fig. 4
-Disconnect york wire
-Disconnect rotation connector
-Disconnect control board connector
-Remove Screw for fixed I/F cable
-Remove signal connector
-Remove degaussing wire connector

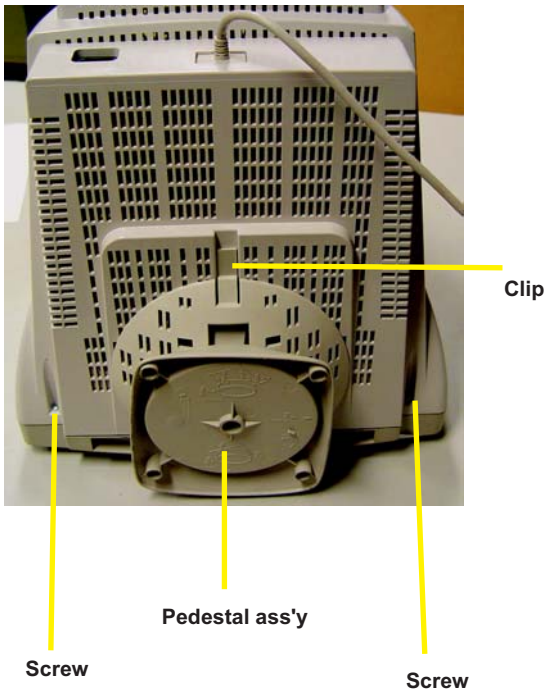


Fig. 1

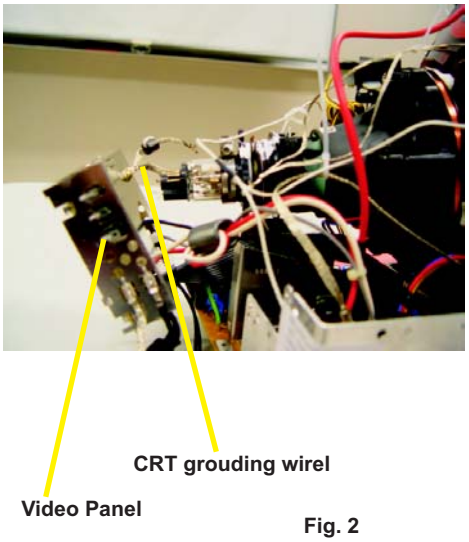


Fig. 2

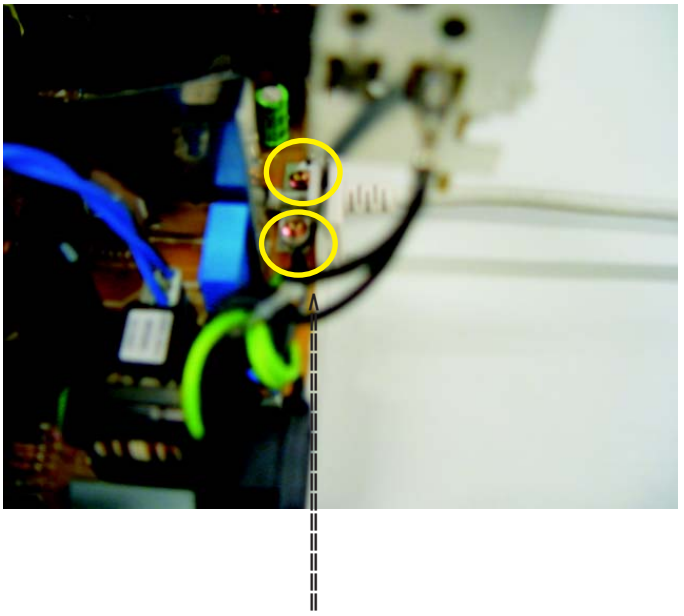


Fig. 3

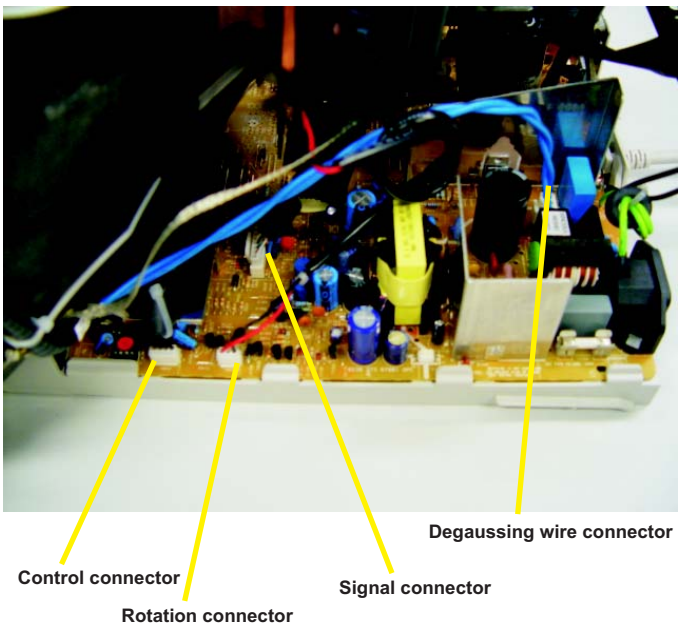


Fig. 4

Mechanical Instructions

4. Main panel with Bottom Tray
-Remove 2 screws for disconnect the Bottom tray as Fig. 5.
-Pull the bottom tray on press right and left side clip from fig. 6 to fig. 7.

5. SERVICE POSITION
Reconnect connectors, some wires and panels (chassis), service position can be available for DC/AC measurement as shown in Fig. 8.



Fig. 5

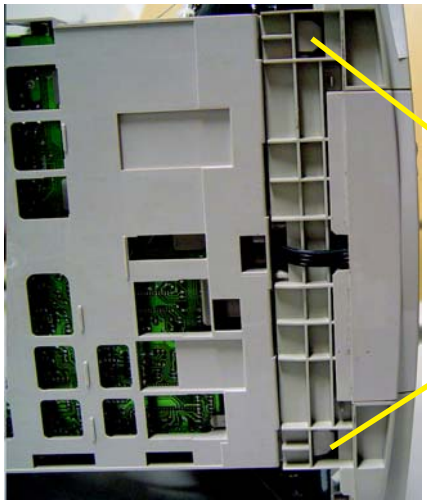


Fig. 6

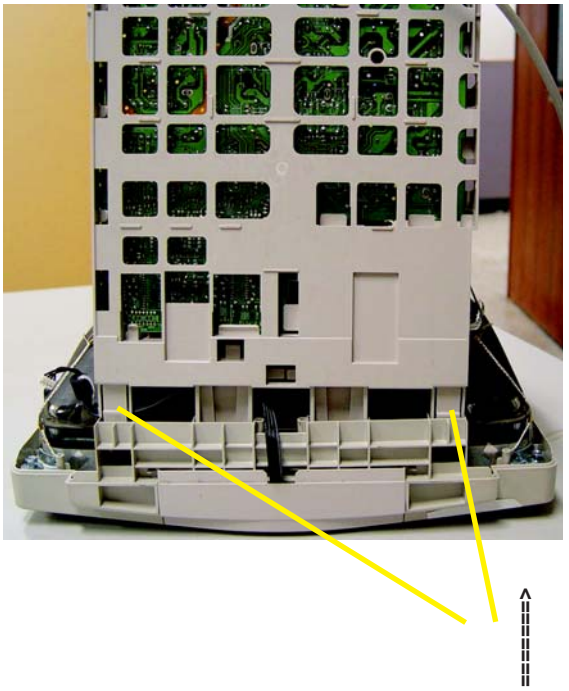


Fig. 7

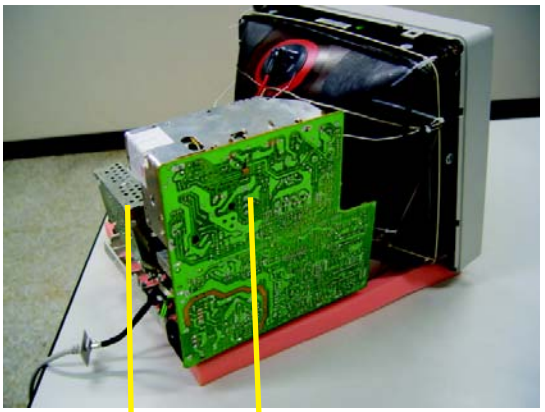


Fig. 8 SERVICE POSITION

Warning and Notes

Warnings

1. Safety regulations require that the unit should be returned in its original condition and that components identical to the original components are used. The safety components are indicated by the symbol ⚠ .

2. In order to prevent damage to ICs and transistors, all high-voltage flash-overs must be avoided. In order to prevent damage to the picture tube, the method shown in Fig. 1 should be used to discharge the picture tube. Use a high-voltage probe and a multimeter (position DC-V). Discharge until the meter reading is **0 V** (after approximately 30 seconds).

3. **ESD**
All ICs and many other semiconductors are sensitive to electrostatic discharges (ESD). Careless handling during repair can drastically shorten their life. Make sure that during repair you are connected by a pulse band with resistance to the same potential as the ground of the unit. Keep components and tools also at this same potential.

4. When repairing a unit, always connect it to the AC Power voltage via an isolating transformer.

5. Be careful when taking measurements in the high-voltage section and on the picture tube panel.

6. It is recommended that saferty goggles be worn when replacing the picture tube.

7. When making adjustments,use plastic rather than metal tools. This will prevent any short-circuit or the danger of a circuit becoming unstable.

8. Never replace modules or other components while the unit is switched on.

9. Together with the defleciton unit, the picture tube is used as an integrated unit. Adjustment of this unit during repair is not recommended.

10. After repair, the wiring should be fastened in place with the cable clamps.

11. All units that are returned for service or repair must pass the original manufactures safety tests.

Notes

1. The direct voltages and waveforms are average voltages. They have been measured using the Service test software and under the following conditions :
 - Mode : 640 * 480 (31.5kHz / 60Hz)
 - Signal pattern : grey scale
 - Adjust brightness and contrast control for the mechanical mid-position (click position)

2. The picture tube panel has printed spark gaps. Each spark gap is connected between an electrode of the picture tube and the Aquadag coating.

3. The semiconductors indicated in the circuit diagram(s) and in the parts lists are completely interchangeable per position with the semiconductors in the unit, irrespective of the type indication on these semiconductors.

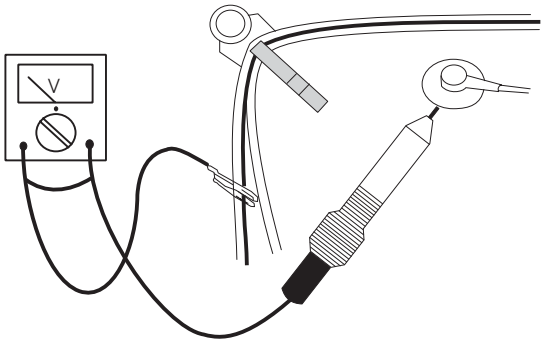


Fig.1

Electrical Instructions

1. General point
==========

1.1 During alignment and measurement supply a distortion free AC-mains voltage to the apparatus via an isolating transformer with a low internal resistance.

1.2 All voltages have to be measured or applied with respect to ground, unless otherwise stated. Note: Not all heatsinks are grounded, avoid using heatsinks as ground.

1.3 The term "Linear RGB" is meant the 0.7 Vpp video with separate SYNC (TTL Level). Reference factory preset mode timings (format of pattern generator CHROMA-2135) are shown in TABLE 1 to TABLE 8. Preload timing TABLE 9 to TABLE 22.

1.4 Any external voltage source should have low internal impedance.

1.5 The alignment has to be done in room temperature 25 5C.

1.6 Digit control buttons for

OSD MENU :

LANGUAGE
ZOOM
ADJUST HORIZONTAL - POSITION
- SIZE

ADJUST VERTICAL - POSITION
- SIZE

ADJUST SHAPE - ADJUST SIDE CURVE
- PINCUSHION
- BALANCE
- ADJUST SIDE ANGLES
- TRAPEZOID
- PARALLELOGRAM
- ROTATE IMAGE

ADJUST COLOR
- 3colour temperatures (9300K, 6500K, SRGB)
- 1 user preset independent RGB adjustment

RESET TO FACTORY SETTING
EXTRA CONTROLS
- ADJUST MOIR
- HORIZONTAL
- VERTICAL
- DEGAUSSING

MODEL SELECT

CLOSE MAIN CONTROLS

2. Pre warm-up
==========

2.1 Align in pre-warmed condition at least 30 minutes during Manufacturing.

3. Main chassis alignment
==========

3.1 Power supply adjustment :
All supply voltages were fixed and adjustment is unnecessary. (Check the voltages on Chassis line)

3.2 Apply a VGA 31.5KHz/480 lines cross-hatch signal.

3.2.1 Adjust BPLUS of factory setting to obtain the anode voltage 25.0KV+/-1KVat zero beam current.

3.3 Monitor the following auxiliary voltages.

+5	source across 7153 Pin out and GND	+5V ± 0.15 VDC
+6	source across C2154	+6.2V ± 0.2 VDC
+12	source across C2155	+12.6V ± 0.4 VDC
-12	source across C2156	-12.5V ± 0.4 VDC
+82	source across C2153	+82.0V ± 1.5 VDC
+190	source across C2152 (+ to Gnd)	+190.5V ± 3.0 VDC
-96	source across C2630	-96V ± 6.0 VDC

4. General conditions for aging and alignment
==========

4.1 Aging/burn-in:Use low mains AC supply (90Vac) for monitor first power on test.Pre-adjust the Focus till cross hatch pattern can be clearly visible then enter the agingmode. (Press both Up and Down keys, and then switch-on the monitor with signal cable disconnected.)

4.2 During all alignments, supply a distortion free AC mains voltage to the monitor set via an isolating transformer with low internal impedance.

4.3 All measurements are carried out at nominal mains voltage, unless otherwise stated.

4.4 Align in pre-warmed condition, at least 30 minutes warm-up with nominal light output.

4.5 Purity, geometry and subsequent alignments should be carried out in a magnetic cage with correct magnetic field.

Northern Hemisphere: H = 0, V = 450 mG, Z = 0
Southern Hemisphere: H = 0, V = -500 mG, Z = 0
Equatorial Support : H = 0, V = 0 mG, Z = 0

4.6 All voltages are to be measured or applied with respect to ground , unless otherwise stated.Attention : Not all heatsinks are GND, avoid using heatsinks as ground.

4.7 The white balance and purity has to be adjusted in dully lighted room.

4.8 All alignments have to be done in a room with a temperature Of 25 10 C.

4. Alignment of Vg2, cut-off point, white tracking
==========

5.1 EEPROM data has to be pre-set according to software approval sheets, sheet-139,
sheet-140: (loaded beforehand with average values of mode pre-set data and mode pre-set selection bytes.) The following table is for reference only.Optimum values should be determined by Factory(ME) for every production batch.

In factory, alignments are done via I^2C on the I/F cable DDC bus , but the set can also be manually aligned. Enter factory mode by pressing both Up and Down keys while power-on. Select factory.

CRT / Item	Condition/Description	CPT DAC value	LG DAC value	SDI DAC value
9300/6500/sRGB Bias	Nominal Cut -off setting	127	127	127
9300/6500/sRGB Gain	Nominal Gain setting	185	185	185
sRGB contrast	sRGB contrast	255	255	255
sRGB bright	sRGB brightness	127	127	127
Corner -T, B	Fh < 36KHz	134, 122	134, 126	136, 124
Corner -T, B	36KHz <Fh < 52KHz	134, 122	130, 126	130, 124
Corner -T, B	52KHZ < Fh <65KHz	140, 122	126, 126	130, 124
Corner -T, B	Fh > 65KHz	140, 120	126, 126	128, 124
Pin Correction -T, B	Top/Bottom pin correction	120, 126	122, 122	120, 120
Pin Correction -S, W	S/W shape pin correction	130, 144	136, 130	130, 144
V-offset	V-raster centering	65	60	90
V-gain	V size control range for user	180	180	200
Sub-contrast	9300 peak light output adjust	220	220	220
Sub-brightness	Brightness control range limit	160	160	160
Linearity -H	Fh < 33.00KHz	170	175	180
Linearity -H	33.00KHz < Fh < 36.00KHz	140	140	165
Linearity -H	36.00KHz < Fh < 40.00KHz	125	130	150
Linearity -H	40.00KHz < Fh < 45.00KHz	105	115	115
Linearity -H	45.00KHz < Fh < 52.00KHz	90	95	90
Linearity -H	52.00KHz < Fh < 55.00KHz	80	90	85
Linearity -H	55.00KHz < Fh < 60.50KHz	70	80	80
Linearity -H	60.50KHz < Fh < 66.00KHz	65	75	70
Linearity -H	Fh >66.00 KHz	60	60	60
Linearity -V	Vertical S -correction	50	50	50
Range-UserH	H size control range for user	75	75	75
Range-Sub ⊕	Zoom control range for user	55	55	55
B+	Adjusted for Anode voltage	89	89	89
ABL	9300 full white light o/p adjust	110	120	135
EHT comp -H, V	Fh < 33.00KHz	132, 114	132, 116	132, 114
EHT comp -H, V	33.00KHz < Fh < 36.00KHz	124, 114	130, 114	124, 114
EHT comp -H, V	36.00KHz < Fh < 40.00KHz	122, 116	126, 116	122, 114
EHT comp -H, V	40.00KHz < Fh < 45.00KHz	120, 116	124, 116	120, 116
EHT comp -H, V	45.00KHz < Fh < 52.00KHz	114, 116	118, 118	114, 116
EHT comp -H, V	52.00KHz < Fh < 55.00KHz	112, 116	118, 118	112, 116
EHT comp -H, V	55.00KHz < Fh < 60.50KHz	112, 116	116, 118	112, 116
EHT comp -H, V	60.50KHz < Fh < 66.00KHz	112, 118	114, 118	112, 118
EHT comp -H, V	Fh >66.00 KHz	114, 118	114, 118	114, 118
V-Linbal	Vertical top/bottom linearity	140	140	140
V-Focus	Vertical focus amplitude	100	100	180
OSD Contrast	OSD Contrast	255	255	255
LF-Brigh	LightFrame Brightness	3	3	3
LF-Sharp	LightFrame Sharpness	3	3	3
Moir setting -H	All modes	0	0	0
Moir setting -V	All modes	0	0	0

Electrical Instructions

5.2 External degaussing Remove ferromagnetic measuring equipment, Iron tablet, etc., in the neighbourhood of the apparatus within half a meter. Position the set in E-W direction and degauss well via external degaussing coil. Slowly increase the distance between the picture tube and Degaussing coil, keeping the coil in parallel with the Screen of CRT. When the distance is more than 2m, turn of f The degaussing current.

5.3 Adjustment mode: 68.7KHz/85Hz with correctly adjusted video size 306x230mm. Use color-analyzer (Minolta CA-100) to adjust cut-off and white balance. Before alignment, set initial data as item 5.1 and brightness set to 50%.

White alignment measurement equipment set-ups:

Setup A: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, 9300 mode Calibrate CA100, Low 9300 RGB=100 x=0.283, y=0.297, Y=0.10FL ± 0.05FL

Setup B: 100x100mm white block , 0.7Vpp input video signal, contrast at 100%, 9300 mode Calibrate Ca100, High 9300 RGB=100 x=0.283, y=0.297, Y=41FL ± 1FL

Setup C: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, 6500 mode Calibrate CA100, Low 6500 RGB=100 x=0.313, y=0.329, Y=0.10FL ± 0.05FL

Setup D: 100x100cm white block , 0.7Vpp input video signal, contrast at 100%, 6500 mode Calibrate CA100, High 6500 RGB=100 x=0.313, y=0.329, Y=36FL ± 1FL

Setup E: 100x100mm white block , 0.7Vpp input video signal, contrast at 0%, sRGB mode Calibrate CA100, Low sRGB RGB=100 x=0.313, y=0.329, Y=0.10FL ± 0.05FL

Setup F: 100x100cm white block , 0.7Vpp input video signal, contrast at 100%, sRGB mode Calibrate CA100, High sRGB RGB=100 x=0.313, y=0.329, Y=36FL ± 1FL

Setup G: Full white (306x230mm), 0.7Vpp input video signal, contrast at 100% , 9300 mode Calibrate CA100, High 9300 RGB=100 x=0.313, y=0.329, Y=30FL ± 1FL

Adjustment procedure:

5.3.1 Setup A, manually rotate Vg2 pot-meter on LOT until brightness reaches 100 scale.

5.3.2 Setup A, adjust RGB cut-off (I^2C) for all colors at 100 7 scale, 9300 mode. (x=0.283, y=0.297, Y=0.10 0.05FL)

5.3.3 Setup B, adjust RGB gain (I^2C) for all colors at 100 2 scale, 9300 mode. (x=0.283, y=0.297, Y=41 0.5 FL)

5.3.4 Repeat 5.3.2, 5.3.3 (RGB cut-off and gain) to get both low and high 9300 scales at 100. (0.10FL 0.05FL for low scale; 41FL 1FL for high scale. x/y tolerance 0.005)

5.3.5 Setup C, adjust RGB cut-off (I^2C) for all colors at 100 7 scale, 6500 mode. (x=0.313, y=0.329, Y=0.10FL 0.05FL)

5.3.6 Setup D, adjust RGB gain (I^2C) for all colors at 100 2 scale, 6500 mode. (X=0.313, y=0.329, Y=36FL ± 1FL)

5.3.7 Repeat 5.3.5, 5.3.6 (RGB cut-off and gain) to get both low and high 6500 scales at 100. (0.10FL 0.05FL for low scale; 36FL 1FL for high scale. x/y tolerance 0.005)

4.3.8 Setup E, adjust RGB cut-off (I^2C) for all colors at 100 7 scale, sRGB mode.
(x=0.313, y=0.329, Y=0.10FL 0.05FL)(same values as 6500 mode)

4.3.9 Setup F, adjust RGB gain (I^2C) for all colors at 100 2 scale, sRGB mode.
(x=0.313, y=0.329, Y=36FL ± 1FL)(same values as 6500 mode)

5.3.10 sRGB brightness at 50%. Adjust sRGB contrast (I^2C) to get Y=23FL ± 1FL for full white pattern.
(0.10FL 0.05FL for low scale, 23FL 1FL for high scale. x/y tolerance 0.005)

5.4 Setup G, adjust ABL (I^2C) for 30FL 0.5FL, 9300 mode.
The above alignment method may be changed, as long as the final results are the same.
(The above method has least amount of adjustment and iteration steps.)

6. Adjustment of the picture geometry

==========

6.1 Alignment of primary geometry

6.1.1 Apply Timing 7 (64KHz/60Hz, 1280x1024) with black video signal, set V-position at 50%, set H and V-size for visible raster edges at all sides.
(RGB cut-off can be increased temporarily to make raster visible. After adjustment, restore RGB cut-off to original values.) Slide switch 1603 for centered raster in horizontal Direction. Adjust V-offset (I^2C) for centered raster in vertical direction.
Apply Timing 8 (68.7kHz / 85Hz) with crosshatch signal and start geometry alignment.

6.1.2 Adjust the Horizontal Size to 306mm.

6.1.3 Adjust the Horizontal Position for centered video.

6.1.4 Adjust the Vertical Size to 230 mm.

6.1.5 Adjust Vertical Position for centered video

6.1.6 Adjust picture tilt for correct TOP/BOTTOM lines.
(Picture tube should be mounted without tilt w.r.t. cabinet)

6.1.7 Adjust pincushion to get optimum vertical line.

6.1.8 Adjust trapezoid to get optimum vertical line.

6.1.9 Adjust balanced pincushion to get optimum vertical line.

6.1.10 Adjust the parallelogram to get optimum vertical line.

6.1.11 If needed, adjust the top / bottom corner control to get optimum corner geometry.
Top and bottom corner only affect top and bottom 60mm of the vertical lines.
(6.1.7, 6.1.8, 6.1.9 and 6.1.10 may need to be readjusted.)

6.1.12 Store the adjusted result and exit OSD.
(The values for pincushion, trapezoid, balance pincushion and parallelogram can be copied to the other pre-set modes to shorten alignment time.)

6.2 Other pre-set mode geometry adjustment
Use following procedure for all pre-set modes (except 68.7kHz/85Hz) (Timing Table 1 - 8)

6.2.1 Adjust the Horizontal Size to 306mm.

6.2.2 Adjust the Horizontal Position to center position.

6.2.3 Adjust the Vertical Size to 230 mm.

6.2.4 Adjust the Vertical Position for correctly centred vertical video.

6.2.5 Adjust pincushion to get optimum vertical line.

6.2.6 Adjust trapezoid to get optimum vertical line.

6.2.7 Adjust balanced pincushion to get optimum vertical line.

6.2.8 Adjust the parallelogram to get optimum vertical line.
(6.2.5, 6.2.6, 6.2.7 and 6.2.8 may need some iteration.)

6.2.9 Store the set result and exit OSD.

6.3 Other pre-load modes can be visible inside the bezel.

7 Focus adjustment

==========

With full white pattern display at timing 68Khz /85Hz 1024x768, set brightness at 50% and adjust contrast to 25 FL at the center of the screen.

8 and adjust H and V focus pot-meters which are located at flyback transformer, until H- and V-line focus is optimal over the entire screen.

8 Adjustment of Moir

==========

Apply full white pattern and adjust contrast till luminance around 15FL. 1/3 area with minor moir can be acceptable. If needed, use moir cancellation function and adjust the H- moir or V-moir to cancel the moir defect, then save at factory.

9 Loading DDC code

==========

The DDC HEX data (refer to sheet-190) should be written into the DDC by EEPROM writer or equivalent method.

10 Default settings

==========

The finished product should have the following default Settings: Contrast: 100%, Brightness: 50%, Color: 9300, Language: English(Chinese),
Power Save: On (Remark : Every mode is independent for eset to factory setting.))

TIMING FOR V30 GS4 107T5 71K MODEL

REFERENCE PATTERN GENERATOR : CHROMA 2135
* According to VESA version 1.0 release 0.6p

DDC Instructions

1. General

DDC Data Re-programming

In case the main EEPROM with Software DDC which store all factory settings were replaced because a defect,repaired monitor the serial numbers have to be re-programmed.

It is advised to re-soldered the main EEPROM with Software DDC from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information

Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data(EDID) information may be also obtained from VESA.

DDC EDID structure
For the monitor : Standard Version 3.0
Structure Version 1.2

2. System and equipment requirements

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98.
3. EDID301.EXE program (3138 106 10103) shown as Fig. 1
4. Software DDC Alignment kits (4822 310 11184) shown as Fig. 2.

The kit contents: a. Alignment box x1
b. Printer cable x1
c. D-Sub cable x1

Note: The EDID301.EXE (Release Version 1.58, 20000818)is a windows-based program, which cannot be run in MS-DOS.



Figure 1 Diskette with EDID301.EXE

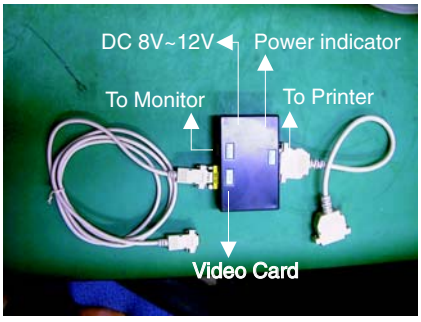
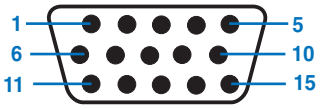


Fig. 2 Alignment Kits

3. Pin assignment

A. 15-pin D-Sub Connector

The 15-pin D-sub connector (male) of the signal cable on the 3rd row for DDC feature :



Pin No.	Assignment	Pin No.	Assignment
1	Red video input	9	Not connected - no.pin
2	Green video input	10	Sync. Ground
3	Blue video input	11	Ground
4	Ground	12	Bi-directional data(SDA)
5	for selftest(PC ground)	13	H.Sync
6	Red video ground	14	V.Sync(VCLK)
7	Green video ground	15	Data clock line(SCL)
8	Blue video ground		

DDC Instructions

4. Configuration and procedure

There is no Hardware DDC (DDC IC) anymore. Main EEPROM stores all factory settings and DDC data (EDID code) which is so called Software DDC. The following section describes the connection and procedure for Software DDC application. The main EEPROM can be re-probrammed by enabling "factory memory data write" function on the DDC program (EDID301.EXE).

***** INITIALIZE ALIGNMENT BOX *****

In order to avoid that monitor entering power saving mode due to sync will cut off by alignment box, it is necessary to initialize alignment box before re-programming DDC Data. Following steps show you the procedures and connection.

Step 1: Supply 8~12V DC power source to the Alignment box by plugging a DC power cord or using batteries.
Step 2: Connecting printer cable and video cable of monitor as shown in Fig.3.

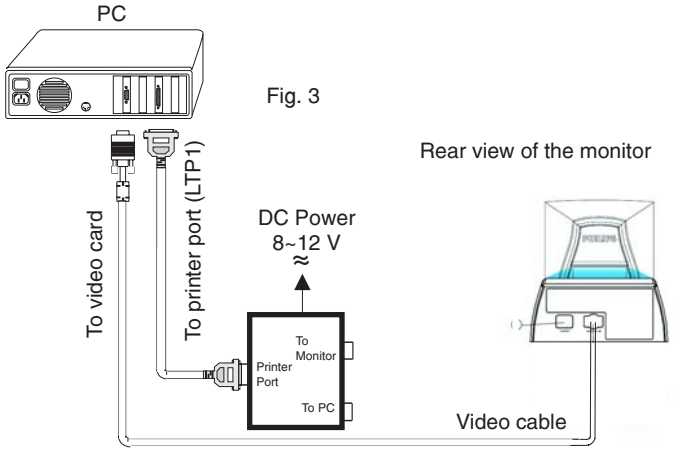


Fig. 3

Step 3: Installation of EDID301.EXE

Method 1: Start on DDC program

Start Microsoft Windows.
1. Insert the disk containing EDID301.EXE program into floppy disk drive.
2. Click Start , choose Run at start menu of Windows 95/98 as shown in Fig. 4.

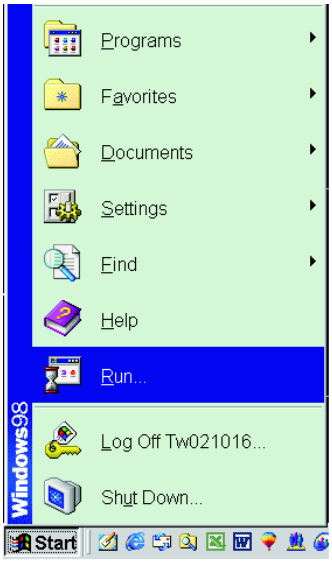


Fig. 4

3. At the submenu, type the letter of your computer's floppy disk drive followed by :EDID301 (for example, A:\EDID301, as shown in Fig. 5).

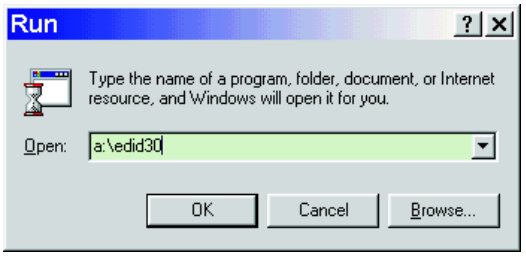


Fig. 5

4. Click **OK** button. The main menu appears (as shown in Fig. 6).
This is for initialize alignment box.

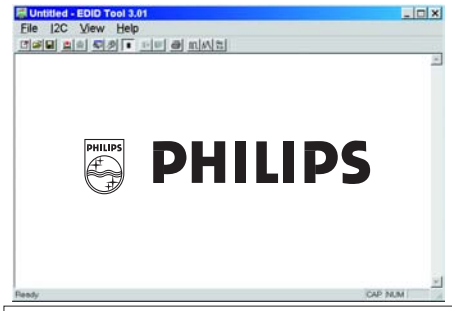


Fig. 6

Note 1: If the connection is improper, you will see the following error message (as shown in Fig. 7) before entering the main menu. Meanwhile, the (read EDID) function will be disable. At this time, please make sure all cables are connected correctly and fixedly, and the procedure has been performed properly.

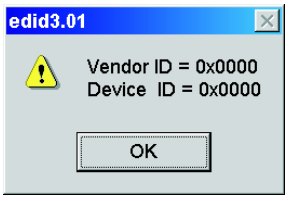


Fig. 7

Method 2: After create a shortcut of EDID301.EXE
: Double click EDID301 icon (as shown in Fig. 8) which is on the screen of Windows Wallpaper.
Bring up main menu of EDID301 as shown in Fig. 9.
This is for initialize alignment box.



Fig. 8

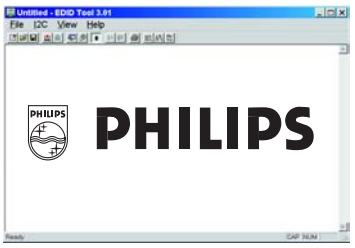
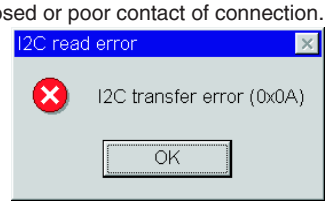


Fig. 9

Note 2: During the loading, EDID301 will verify the EDID data which just loaded from monitor before proceed any further function, once the data structure of EDID can not be recognized, the following error message will appear on the screen as below. Please confirm following steps to avoid this message.
1. The data structure of EDID was incorrect.
2. DDC IC that you are trying to load data is empty.
3. Wrong communication channel has set at configuration setup windows.
4. Cables loosed or poor contact of connection.



Re-programming EEPROM (Software DDC)

Step 1: After initialize alignment box, connecting all cables and box as shown in Fig. 10

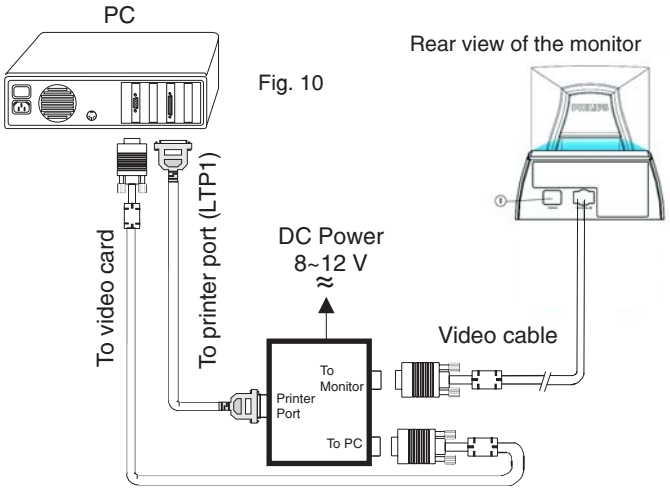


Fig. 10

Step 2: Read DDC data from monitor

1-1 Click the left key of Mouse, or hit any key on the keyboard, then the characters disappear from the screen.
1-2 Click icon as shown if Fig. 11 from the tool bar to bring up the "Configuration Setup" windows as shown in Fig. 12.

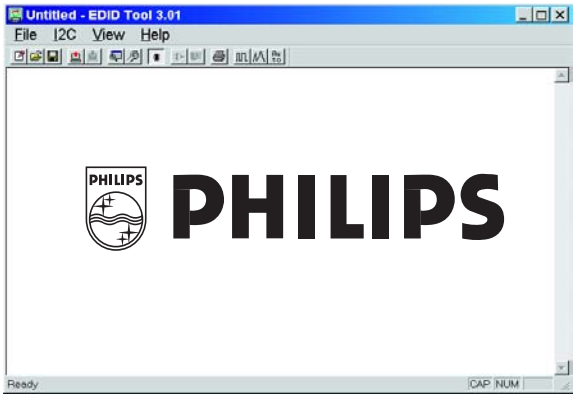


Fig. 11

2. Select the DDC2B as the communication channel. Select "**Enable**" & fill out "**F0**" for Mapped EDID page address as shown in Fig. 12.

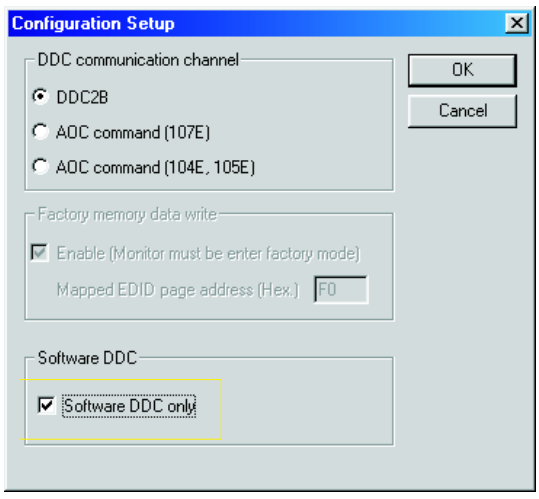


Fig. 12

3. Click OK button to confirm your selection.

4. Click icon (Read EDID function) to read DDC EDID data from monitor. The EDID codes will display on screen as shown in Fig. 13.

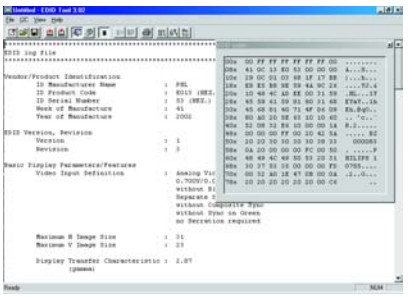


Fig. 13

Step 3: Modify DDC data (verify EDID version, week, year)

1. Click (new function) icon from the tool bar, bring up Step 1 of 9 as shown in Fig. 14 .
EDID301 DDC application provides the function selection and text change (select & fill out) from Step 1 to Step 9.

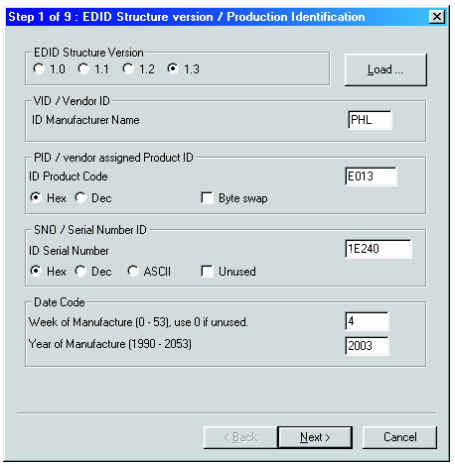


Fig. 14

Step 4: Modify DDC data (Monitor Serial No.)

1. Click **Next** till the Step 7 of 9 window appears as shown in Fig. 15.
2. Fill out the new Serial No. (for example, TY 503960, TY 123456).
3. Click **Next** till the last step window appears, then click **Finish** to exit the Step window.

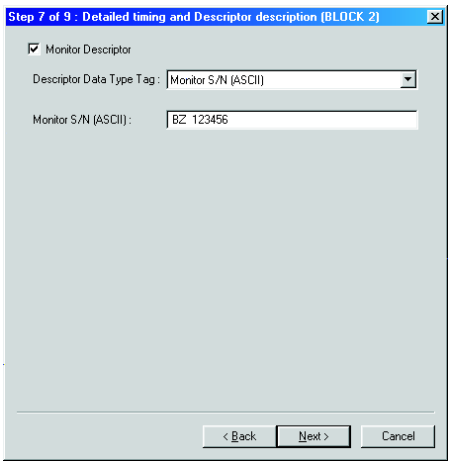
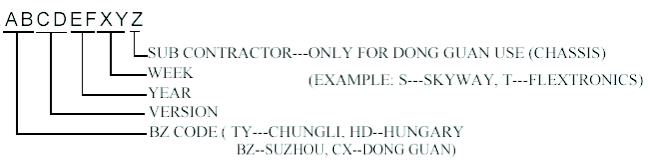


Fig. 15



DDC Instructions

Step 5: **Configuration Setup & Enter Factory Mode ** for "write EDID data"

1. Click icon from the tool bar to bring up the Configuration Setup windows again. Then, select "Software DDC only" as shown in Fig. 16. Click "OK".

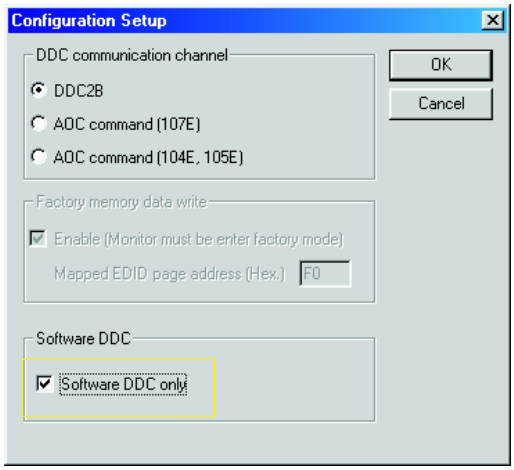


Fig. 16

If you do not select "Software DDC only", when you execute "write EDID", it will bring up an error message as below.



To access factory mode

1. Turn off monitor (don't turn off PC)
2. Press " " and " " simultaneously on the front control panel,then press " ",wait till the OSD menu with characters V30 10T5 P V2.01 20030110 (below OSD menu)" come on the screen of monitor.

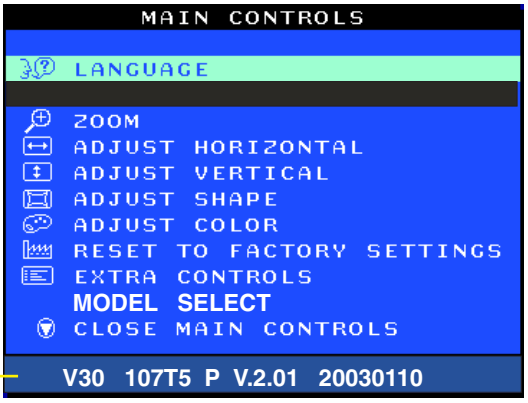


Fig. 17

If OSD menu disappears on the screen of monitor, press " " again (anytime), then the OSD menu comes on the screen again.

If you do not access "Factory mode", when you execute "write EDID", it will bring up an error message as below.



Step 6: Write DDC data

1. Click (Write EDID) icon from the tool bar to write DDC data. Bring up "Writing 0%~100%, ready" a progressing bar on the left down corner.
2. Click (Read EDID) to confirm it.

Step 7: Confirm Serial Number in User Mode

1. Press the button to turn off the monitor. Press the button again to turn on the monitor.
2. Press the button to bring up the OSD Main Menu.
3. Press the button to select Extra Controls, press the button to confirm your selection.
4. Confirm the Serial Number "123456" is updated as shown in Fig. 18.

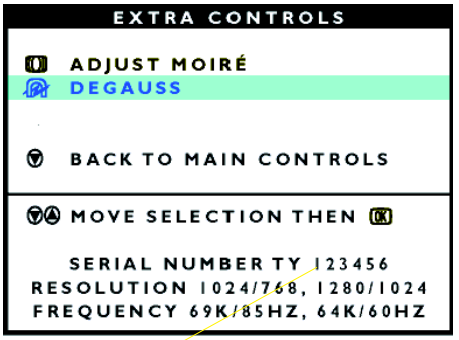


Fig. 18

Step 8: Save DDC data

Sometimes, you may need to save DDC data as a text file for using in other IC chip. To save DDC data, follow the steps below:

1. Click (Save) icon (or click "file"-> "save as") from the tool bar and give a file name as shown in Fig. 19.
 The file type is EDID301 file (*.ddc) which can be open in WordPad. By using WordPad, the texts of DDC data & table (128 bytes, hex code) can be modified. If DDC TEXTS & HEX Table are completely correct, it can be saved as .ddc flie to re-load it into EEPROM for DDC Data application.

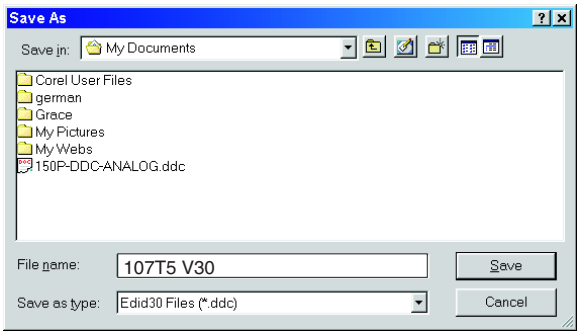


Fig. 19

2. Click **Save**.

Step 9: Load DDC data

1. Click from the tool bar.
2. Select the file you want to open as shown in Fig. 20.
3. Click **Open**.
4. Access "Factory Mode" and enable "Software DDC only" as shown in Fig. 17 & Fig. 16.
5. Write EDID (click).

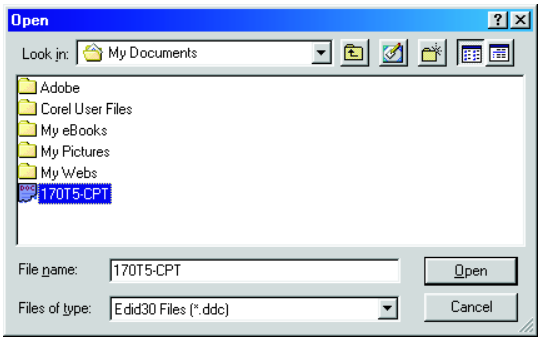


Fig. 20

Step 10: Exit DDC program

Pull down the File menu and select Exit as shown in Fig. 21.
(EDID Tool 3.01)



Fig. 21

Note1 : In User Mode: Read DDC data only

Before read EDID code, please confirm that the **Software DDC only was disabled** as shown in Fig. 22.

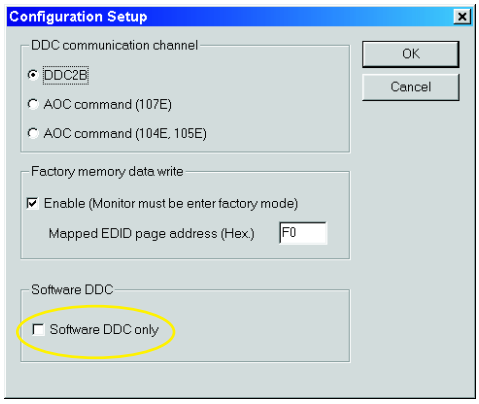
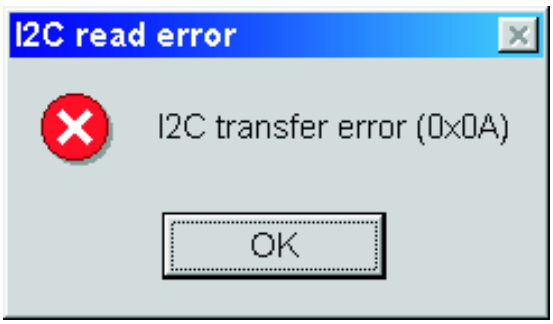


Fig. 22

If you do not disable "Software DDC only", when you execute "read EDID", it will bring up an error message as below.



Note 2 : In Factory Mode: Read/Write DDC data

Before Read/Write EDID code, please confirm that the **Software DDC only was enabled** as shown in Fig. 23.

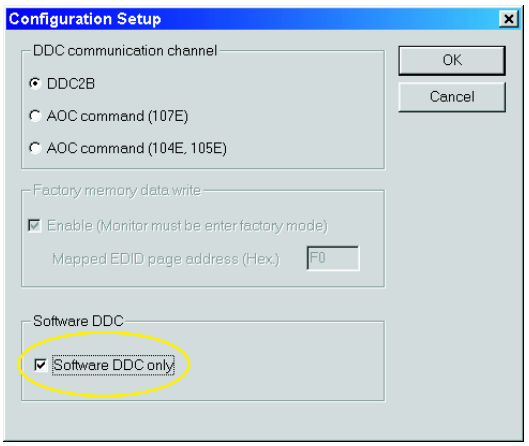


Fig. 23

Hex Data of DDC2B

Go to cover page

```
**********************************************************************
EDID log file for CPT tube
**********************************************************************
Vendor/Product Identification
        ID Manufacturer Name        : PHL
        ID Product Code             : E013 (HEX.)
        ID Serial Number            : 1E240 (HEX.)
        Week of Manufacture         : 4
        Year of Manufacture         : 2003

EDID Version, Revision
        Version                 : 1
        Revision                : 3

Basic Display Parameters/Features
        Video Input Definition    : Analog Video Input
                                    0.700V/0.000V (0.70Vpp)
                                    without Blank-to-Black Setup
                                    Separate Sync
                                    without Composite Sync
                                    without Sync on Green
                                    no Serration required
        Maximum H Image Size    : 31
        Maximum V Image Size    : 23

        Display Transfer Characteristic  : 2.86
                (gamma)

        Feature Support (DPMS)      : Standby
                                      Suspend
                                      Active Off

        Display Type                : RGB color display

Color Characteristics
        Red   X coordinate          : 0.631
        Red   Y coordinate          : 0.329
        Green X coordinate          : 0.276
        Green Y coordinate          : 0.6
        Blue  X coordinate          : 0.143
        Blue  Y coordinate          : 0.057
        White X coordinate          : 0.283
        White Y coordinate          : 0.297

Established Timings
        Established Timings I   : 720 x 400 @70Hz (IBM,VGA)
                                  640 x 480 @60Hz (IBM,VGA)
                                  640 x 480 @72Hz (VESA)
                                  640 x 480 @75Hz (VESA)
                                  800 x 600 @60Hz (VESA)
        Established Timings II  : 800 x 600 @72Hz (VESA)
                                  800 x 600 @75Hz (VESA)
                                  832 x 624 @75Hz (Apple,Mac II)
                                  1024 x 768 @60Hz (VESA)
                                  1024 x 768 @70Hz (VESA)
                                  1024 x 768 @75Hz (VESA)
        Manufacturer's timings    :
Standard Timing Identification #1
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 85

Standard Timing Identification #2
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 85

Standard Timing Identification #3
        Horizontal active pixels    : 1024
        Aspect Ratio                : 4:3
        Refresh Rate                : 85

Standard Timing Identification #4
        Horizontal active pixels    : 1280
        Aspect Ratio                : 5:4
        Refresh Rate                : 60

Standard Timing Identification #5
        Horizontal active pixels    : 640
        Aspect Ratio                : 4:3
        Refresh Rate                : 100

Standard Timing Identification #6
        Horizontal active pixels    : 800
        Aspect Ratio                : 4:3
        Refresh Rate                : 100

Standard Timing Identification #7
        Horizontal active pixels    : 1280
        Aspect Ratio                : 4:3
        Refresh Rate                : 60

Standard Timing Identification #8
        Horizontal active pixels    : 1152
        Aspect Ratio                : 4:3
        Refresh Rate                : 75

Detailed Timing #1
        Pixel Clock (MHz)           : 25.18
        H Active (pixels)           : 640
        H Blanking (pixels)         : 160
        V Active (lines)            : 350
        V Blanking (lines)          : 99
        H Sync Offset (F Porch) (pixels)  : 16
        H Sync Pulse Width (pixels        : 96
        V Sync Offset (F Porch) (lines)   : 37
        V Sync Pulse Width (lines)        : 2
        H Image Size (mm)           : 306
        V Image Size (mm)           : 230
        H Border (pixels)           : 0
        V Border (lines)            : 0
        Flags                       : Non-interlaced
                                    : Normal Display, No stereo
                                    : Digital Separate sync.
                                    : Negative Vertical Sync.
                                    : Positive Horizontal Sync.
Monitor Descriptor #2
        Serial Number               :  BZ  123456

Monitor Descriptor #3
        Monitor Name                : PHILIPS 107T5

Monitor Descriptor #4
        Monitor Range Limits
        Min. Vt rate Hz             : 50
        Max. Vt rate Hz             : 160
        Min. Horiz. rate kHz        : 30
        Max. Horiz. rate kHz        : 71
        Max. Supported Pixel        : 110

        No secondary GTF timing formula supported.

Extension Flag                  : 0
Check sum                       : 7D (HEX.)
**********************************************************************
EDID data (128 bytes)
**********************************************************************
 0: 00  1: ff  2: ff  3: ff  4: ff  5: ff  6: ff  7: 00
 8: 41  9: 0c 10: 13 11: e0 12: 40 13: e2 14: 01 15: 00
16: 04 17: 0d 18: 01 19: 03 20: 68 21: 1f 22: 17 23: ba
24: e8 25: 9e 26: a8 27: a1 28: 54 29: 46 30: 99 31: 24
32: 0e 33: 48 34: 4c 35: ad 36: ee 37: 00 38: 31 39: 59
40: 45 41: 59 42: 61 43: 59 44: 81 45: 80 46: 31 47: 68
48: 45 49: 68 50: 81 51: 40 52: 71 53: 4f 54: d6 55: 09
56: 80 57: a0 58: 20 59: 5e 60: 63 61: 10 62: 10 63: 60
64: 52 65: 08 66: 32 67: e6 68: 10 69: 00 70: 00 71: 1a
72: 00 73: 00 74: 00 75: ff 76: 00 77: 20 78: 42 79: 5a
80: 20 81: 20 82: 31 83: 32 84: 33 85: 34 86: 35 87: 36
88: 0a 89: 20 90: 00 91: 00 92: 00 93: fc 94: 00 95: 50
96: 48 97: 49 98: 4c 99: 49 100: 50 101: 53 102: 20 103: 31
104: 30 105: 37 106: 54 107: 35 108: 00 109: 00 110: 00 111: fd
112: 00 113: 32 114: a0 115: 1e 116: 47 117: 0b 118: 00 119: 0a
120: 20 121: 20 122: 20 123: 20 124: 20 125: 20 126: 00 127: 74
```

Hex Data of DDC2B

EDID log file for LG tube

Vendor/Product Identification
- ID Manufacturer Name : PHL
- ID Product Code : E013 (HEX.)
- ID Serial Number : 1E240 (HEX.)
- Week of Manufacture : 4
- Year of Manufacture : 2003

EDID Version, Revision
- Version : 1
- Revision : 3

Basic Display Parameters/Features
- Video Input Definition : Analog Video Input
 0.700V/0.000V (0.70Vpp)
 without Blank-to-Black Setup
 Separate Sync
 without Composite Sync
 without Sync on Green
 no Serration required
- Maximum H Image Size : 31
- Maximum V Image Size : 23
- Display Transfer Characteristic (gamma) : 2.83
- Feature Support (DPMS) : Standby
 Suspend
 Active Off
- Display Type : RGB color display

Color Characteristics
- Red X coordinate : 0.636
- Red Y coordinate : 0.327
- Green X coordinate : 0.278
- Green Y coordinate : 0.6
- Blue X coordinate : 0.145
- Blue Y coordinate : 0.064
- White X coordinate : 0.283
- White Y coordinate : 0.297

Established Timings
- Established Timings I : 720 x 400 @70Hz (IBM,VGA)
 640 x 480 @60Hz (IBM,VGA)
 640 x 480 @72Hz (VESA)
 640 x 480 @75Hz (VESA)
 800 x 600 @60Hz (VESA)
- Established Timings II : 800 x 600 @72Hz (VESA)
 800 x 600 @75Hz (VESA)
 832 x 624 @75Hz (Apple,Mac II)
 1024 x 768 @60Hz (VESA)
 1024 x 768 @70Hz (VESA)
 1024 x 768 @75Hz (VESA)
- Manufacturer's timings :

Standard Timing Identification #1
- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #2
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #3
- Horizontal active pixels : 1024
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #4
- Horizontal active pixels : 1280
- Aspect Ratio : 5:4
- Refresh Rate : 60

Standard Timing Identification #5
- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 100

Standard Timing Identification #6
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 100

Standard Timing Identification #7
- Horizontal active pixels : 1280
- Aspect Ratio : 4:3
- Refresh Rate : 60

Standard Timing Identification #8
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 75

Detailed Timing #1
- Pixel Clock (MHz) : 25.18
- H Active (pixels) : 640
- H Blanking (pixels) : 160
- V Active (lines) : 350
- V Blanking (lines) : 99
- H Sync Offset (F Porch) (pixels) : 16
- H Sync Pulse Width (pixels) : 96
- V Sync Offset (F Porch) (lines) : 37
- V Sync Pulse Width (lines) : 2
- H Image Size (mm) : 306
- V Image Size (mm) : 230
- H Border (pixels) : 0
- V Border (lines) : 0
- Flags : Non-interlaced
 : Normal Display, No stereo
 : Digital Separate sync.
 : Negative Vertical Sync.
 : Positive Horizontal Sync.

Monitor Descriptor #2
- Serial Number : BZ 123456

Monitor Descriptor #3
- Monitor Name : PHILIPS 107T5

Monitor Descriptor #4
- Monitor Range Limits
- Min. Vt rate Hz : 50
- Max. Vt rate Hz : 160
- Min. Horiz. rate kHz : 30
- Max. Horiz. rate kHz : 71
- Max. Supported Pixel : 110

No secondary GTF timing formula supported.

Extension Flag : 0
Check sum : 9B (HEX.)

EDID data (128 bytes) for LG tube

0: 00	1: ff	2: ff	3: ff	4: ff	5: ff	6: ff	7: 00
8: 41	9: 0c	10: 13	11: e0	12: 40	13: e2	14: 01	15: 00
16: 04	17: 0d	18: 01	19: 03	20: 68	21: 1f	22: 17	23: b7
24: e8	25: f6	26: 28	27: a2	28: 53	29: 47	30: 99	31: 25
32: 10	33: 48	34: 4c	35: ad	36: ee	37: 00	38: 31	39: 59
40: 45	41: 59	42: 61	43: 59	44: 81	45: 80	46: 31	47: 68
48: 45	49: 68	50: 81	51: 40	52: 71	53: 4f	54: d6	55: 09
56: 80	57: a0	58: 20	59: 5e	60: 63	61: 10	62: 10	63: 60
64: 52	65: 08	66: 32	67: e6	68: 10	69: 00	70: 00	71: 1a
72: 00	73: 00	74: 00	75: ff	76: 00	77: 20	78: 42	79: 5a
80: 20	81: 20	82: 31	83: 32	84: 33	85: 34	86: 35	87: 36
88: 0a	89: 20	90: 00	91: 00	92: 00	93: fc	94: 00	95: 50
96: 48	97: 49	98: 4c	99: 49	100: 50	101: 53	102: 20	103: 31
104: 30	105: 37	106: 54	107: 35	108: 00	109: 00	110: 00	111: fd
112: 00	113: 32	114: a0	115: 1e	116: 47	117: 0b	118: 00	119: 0a
120: 20	121: 20	122: 20	123: 20	124: 20	125: 20	126: 00	127: 9b

Hex Data of DDC2B

Go to cover page

EDID log file for SDI tube

Vendor/Product Identification
- ID Manufacturer Name : PHL
- ID Product Code : E013 (HEX.)
- ID Serial Number : 1E240 (HEX.)
- Week of Manufacture : 4
- Year of Manufacture : 2003

EDID Version, Revision
- Version : 1
- Revision : 3

Basic Display Parameters/Features
- Video Input Definition : Analog Video Input
 0.700V/0.000V (0.70Vpp)
 without Blank-to-Black Setup
 Separate Sync
 without Composite Sync
 without Sync on Green
 no Serration required
- Maximum H Image Size : 31
- Maximum V Image Size : 23
- Display Transfer Characteristic (gamma) : 2.9
- Feature Support (DPMS) : Standby
 Suspend
 Active Off
- Display Type : RGB color display

Color Characteristics
- Red X coordinate : 0.645
- Red Y coordinate : 0.316
- Green X coordinate : 0.265
- Green Y coordinate : 0.606
- Blue X coordinate : 0.143
- Blue Y coordinate : 0.058
- White X coordinate : 0.283
- White Y coordinate : 0.297

Established Timings
- Established Timings I : 720 x 400 @70Hz (IBM,VGA)
 640 x 480 @60Hz (IBM,VGA)
 640 x 480 @72Hz (VESA)
 640 x 480 @75Hz (VESA)
 800 x 600 @60Hz (VESA)
- Established Timings II : 800 x 600 @72Hz (VESA)
 800 x 600 @75Hz (VESA)
 832 x 624 @75Hz (Apple,Mac II)
 1024 x 768 @60Hz (VESA)
 1024 x 768 @70Hz (VESA)
 1024 x 768 @75Hz (VESA)
- Manufacturer's timings :

Standard Timing Identification #1
- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #2
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #3
- Horizontal active pixels : 1024
- Aspect Ratio : 4:3
- Refresh Rate : 85

Standard Timing Identification #4
- Horizontal active pixels : 1280
- Aspect Ratio : 5:4
- Refresh Rate : 60

Standard Timing Identification #5
- Horizontal active pixels : 640
- Aspect Ratio : 4:3
- Refresh Rate : 100

Standard Timing Identification #6
- Horizontal active pixels : 800
- Aspect Ratio : 4:3
- Refresh Rate : 100

Standard Timing Identification #7
- Horizontal active pixels : 1280
- Aspect Ratio : 4:3
- Refresh Rate : 60

Standard Timing Identification #8
- Horizontal active pixels : 1152
- Aspect Ratio : 4:3
- Refresh Rate : 75

Detailed Timing #1
- Pixel Clock (MHz) : 25.18
- H Active (pixels) : 640
- H Blanking (pixels) : 160
- V Active (lines) : 350
- V Blanking (lines) : 99
- H Sync Offset (F Porch) (pixels) : 16
- H Sync Pulse Width (pixels) : 96
- V Sync Offset (F Porch) (lines) : 37
- V Sync Pulse Width (lines) : 2
- H Image Size (mm) : 306
- V Image Size (mm) : 230
- H Border (pixels) : 0
- V Border (lines) : 0
- Flags : Non-interlaced
 : Normal Display, No stereo
 : Digital Separate sync.
 : Negative Vertical Sync.
 : Positive Horizontal Sync.

Monitor Descriptor #2
- Serial Number : BZ 123456

Monitor Descriptor #3
- Monitor Name : PHILIPS 107T5

Monitor Descriptor #4
- Monitor Range Limits
- Min. Vt rate Hz : 50
- Max. Vt rate Hz : 160
- Min. Horiz. rate kHz : 30
- Max. Horiz. rate kHz : 71
- Max. Supported Pixel : 110

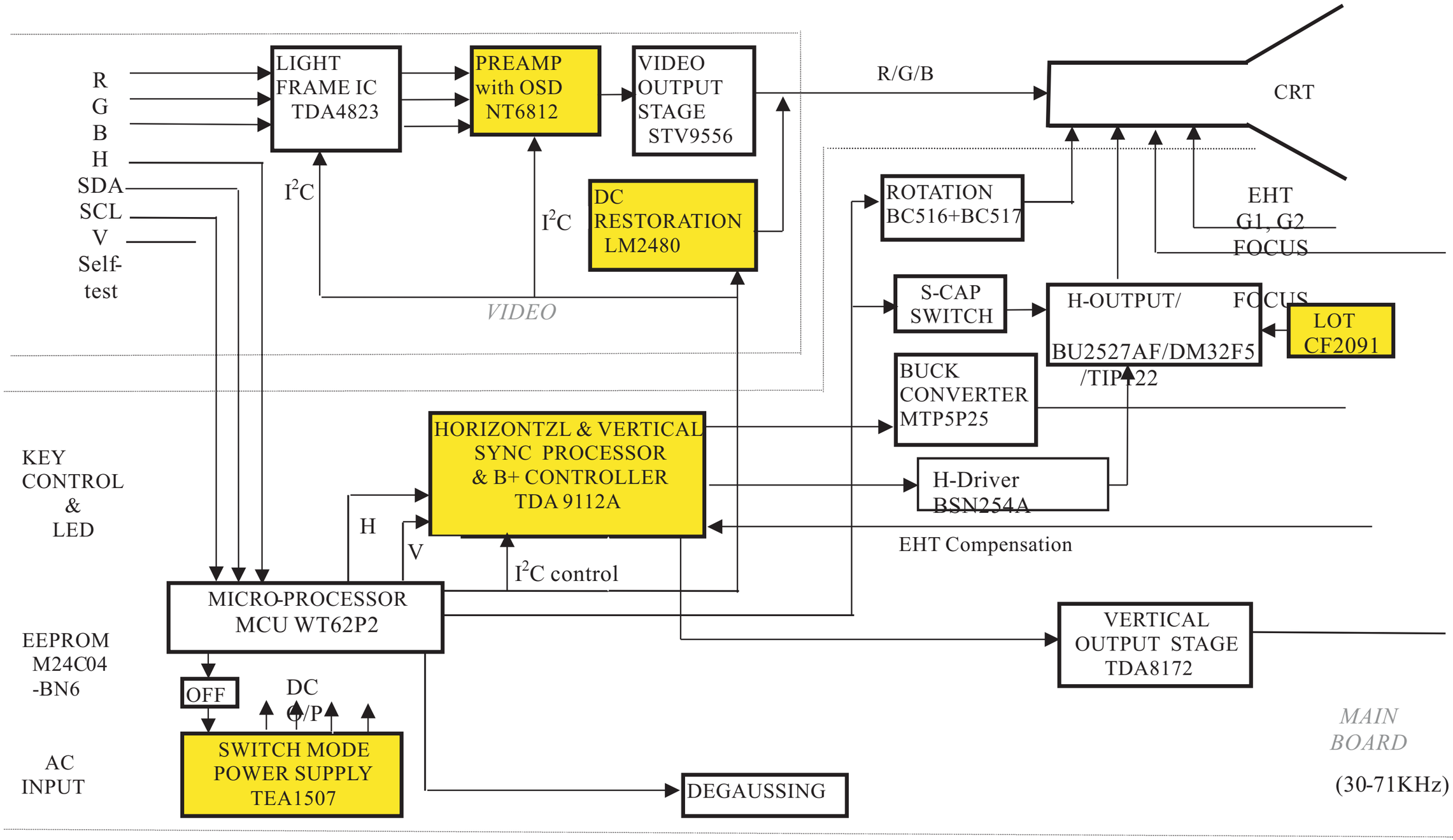
No secondary GTF timing formula supported.

Extension Flag : 0
Check sum : F1 (HEX.)

EDID data (128 bytes) for SDI tube

0: 00	1: ff	2: ff	3: ff	4: ff	5: ff	6: ff	7: 00
8: 41	9: 0c	10: 13	11: e0	12: 40	13: e2	14: 01	15: 00
16: 04	17: 0d	18: 01	19: 03	20: 68	21: 1f	22: 17	23: be
24: e8	25: 0d	26: b8	27: a5	28: 51	29: 43	30: 9b	31: 24
32: 0e	33: 48	34: 4c	35: ad	36: ee	37: 00	38: 31	39: 59
40: 45	41: 59	42: 61	43: 59	44: 81	45: 80	46: 31	47: 68
48: 45	49: 68	50: 81	51: 40	52: 71	53: 4f	54: d6	55: 09
56: 80	57: a0	58: 20	59: 5e	60: 63	61: 10	62: 10	63: 60
64: 52	65: 08	66: 32	67: e6	68: 10	69: 00	70: 00	71: 1a
72: 00	73: 00	74: 00	75: ff	76: 00	77: 20	78: 42	79: 5a
80: 20	81: 20	82: 31	83: 32	84: 33	85: 34	86: 35	87: 36
88: 0a	89: 20	90: 00	91: 00	92: 00	93: fc	94: 00	95: 50
96: 48	97: 49	98: 4c	99: 49	100: 50	101: 53	102: 20	103: 31
104: 30	105: 37	106: 54	107: 35	108: 00	109: 00	110: 00	111: fd
112: 00	113: 32	114: a0	115: 1e	116: 47	117: 0b	118: 00	119: 0a
120: 20	121: 20	122: 20	123: 20	124: 20	125: 20	126: 00	127: f1

Function Block of V30 107T5



Schematic Diagram of Main board

MAIN PCB

SB: 57251x1

PB: 57271

POWER SUPPLY

(R) STANDS FOR COMPONENT RESERVED.

V30-107T5 CRT Deviation list *

REF.	LG Tube	SDI Tube	CPT Tube
2252	910N 250V MPS	820N 250V MPS	820N 250V MPS
2255	330N 400V MPSA	390N 400V MPSA	390N 400V MPSA
2633	270P 2KV X7R	330P 2KV X7R	330P 2KV X7R
2637	270P 2KV X7R	330P 2KV X7R	330P 2KV X7R
3408	2R2 1/2W	2R2 1/2W	2R4 1/2W
3409	2R2 1/2W	2R2 1/2W	2R4 1/2W

CHN TYT12- | SETNAME V30

CLASS_NO | MAIN BOARD (LG) | 107T51/00 | 3138 178 6492

2003-01-07 D | 2003-01-10 1

NAME KC Huang/Debby Tai | SUPERS. 1 | 130 = 1 | A1

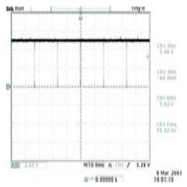
CHECK | DATE 2003-01-07

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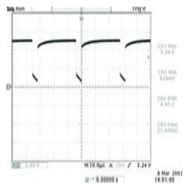
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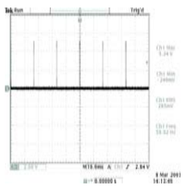
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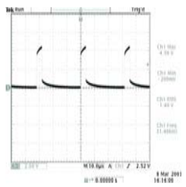
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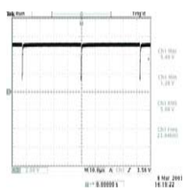
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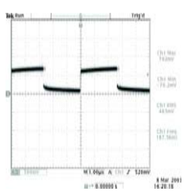
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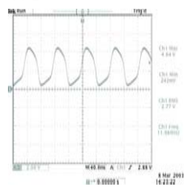
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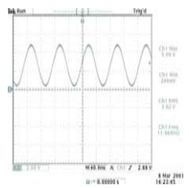
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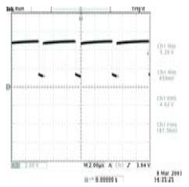
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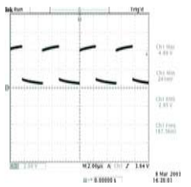
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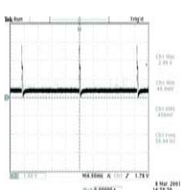
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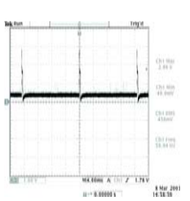
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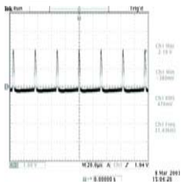
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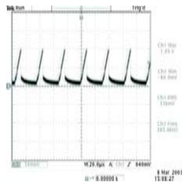
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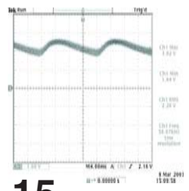
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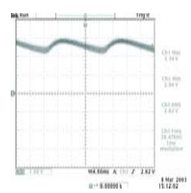
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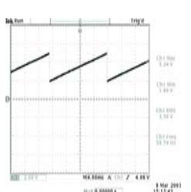
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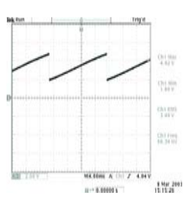
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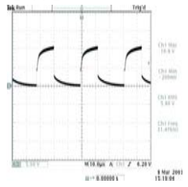
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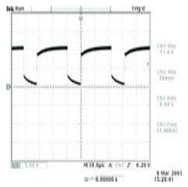
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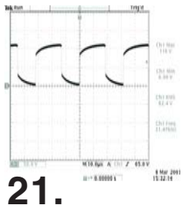
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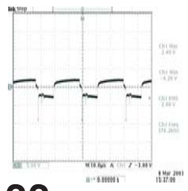
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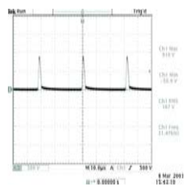
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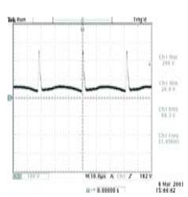
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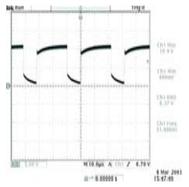
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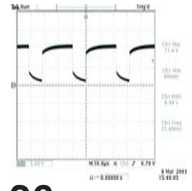
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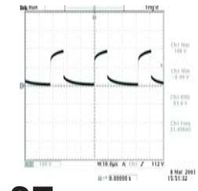
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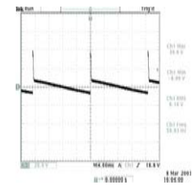
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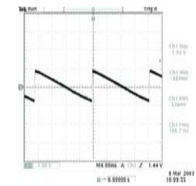
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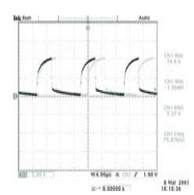
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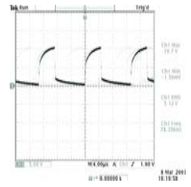
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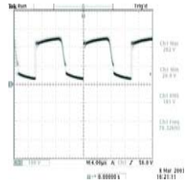
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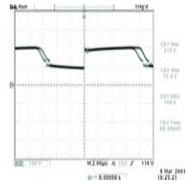
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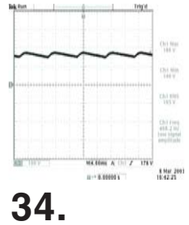
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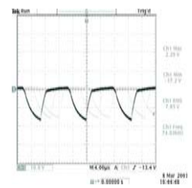
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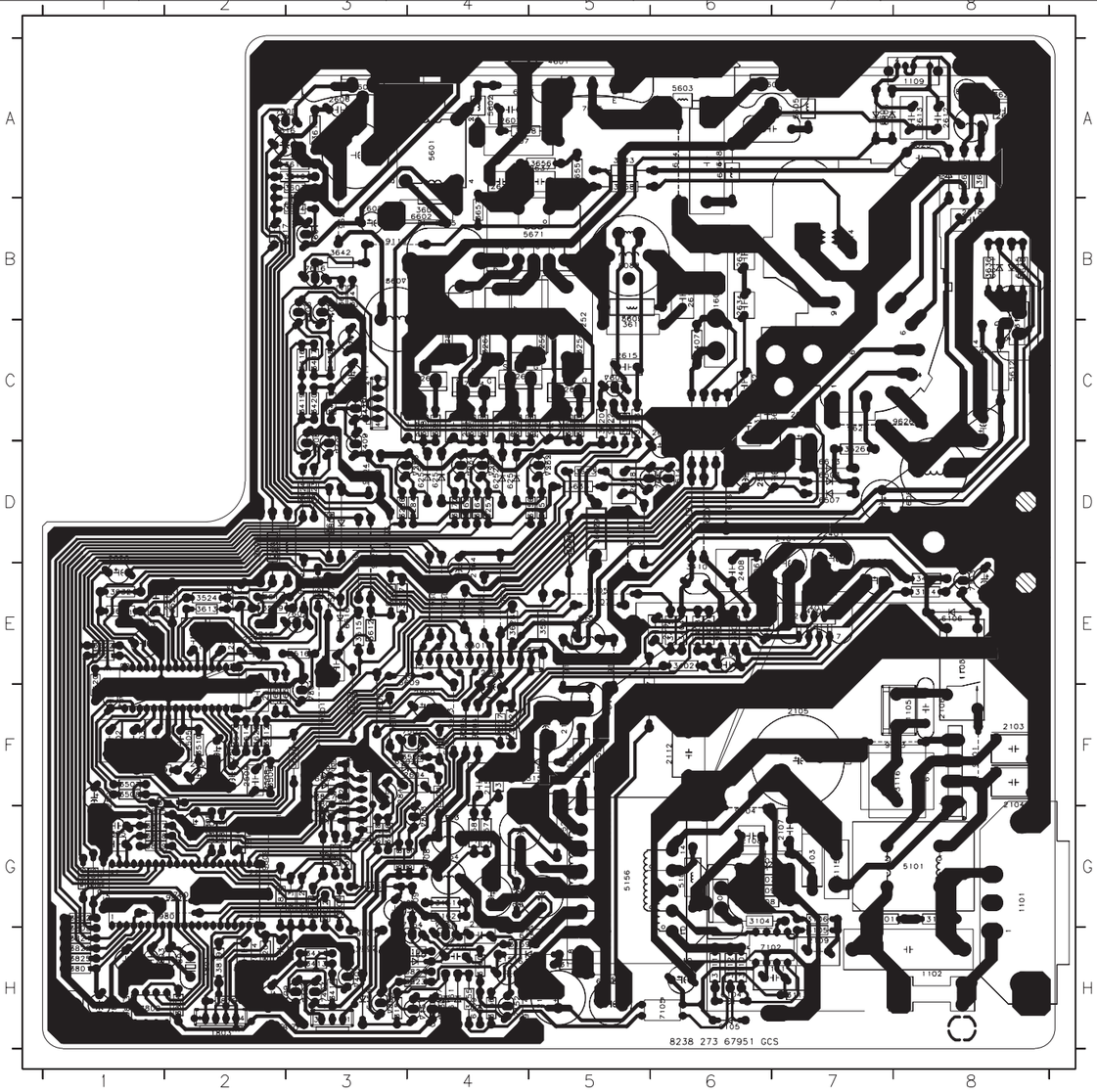
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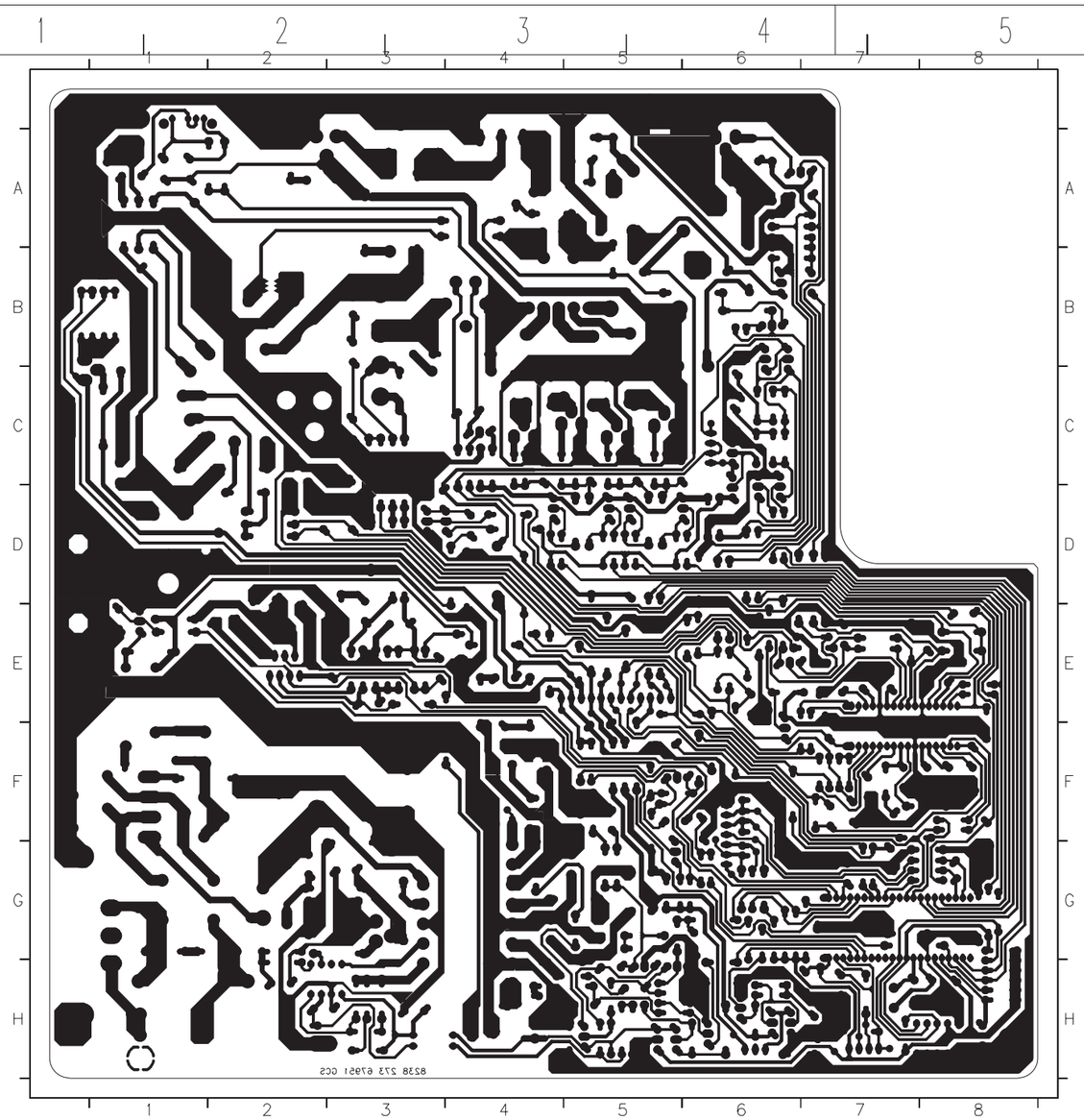


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CN: TYT12-	V30 107T5		
CLASS NO. 3XX000	PWR+DEF Board V30 CRT MTR	3138 103 5725	1 2003-01-10
2003-01-10 3			
NAME KC Huang/D Tai	SUPERS 2	10 132 - 1	A3
CHECK	DATE 2003-01-10	© Philips Electronics N.V.	

C. B. A. of Main board

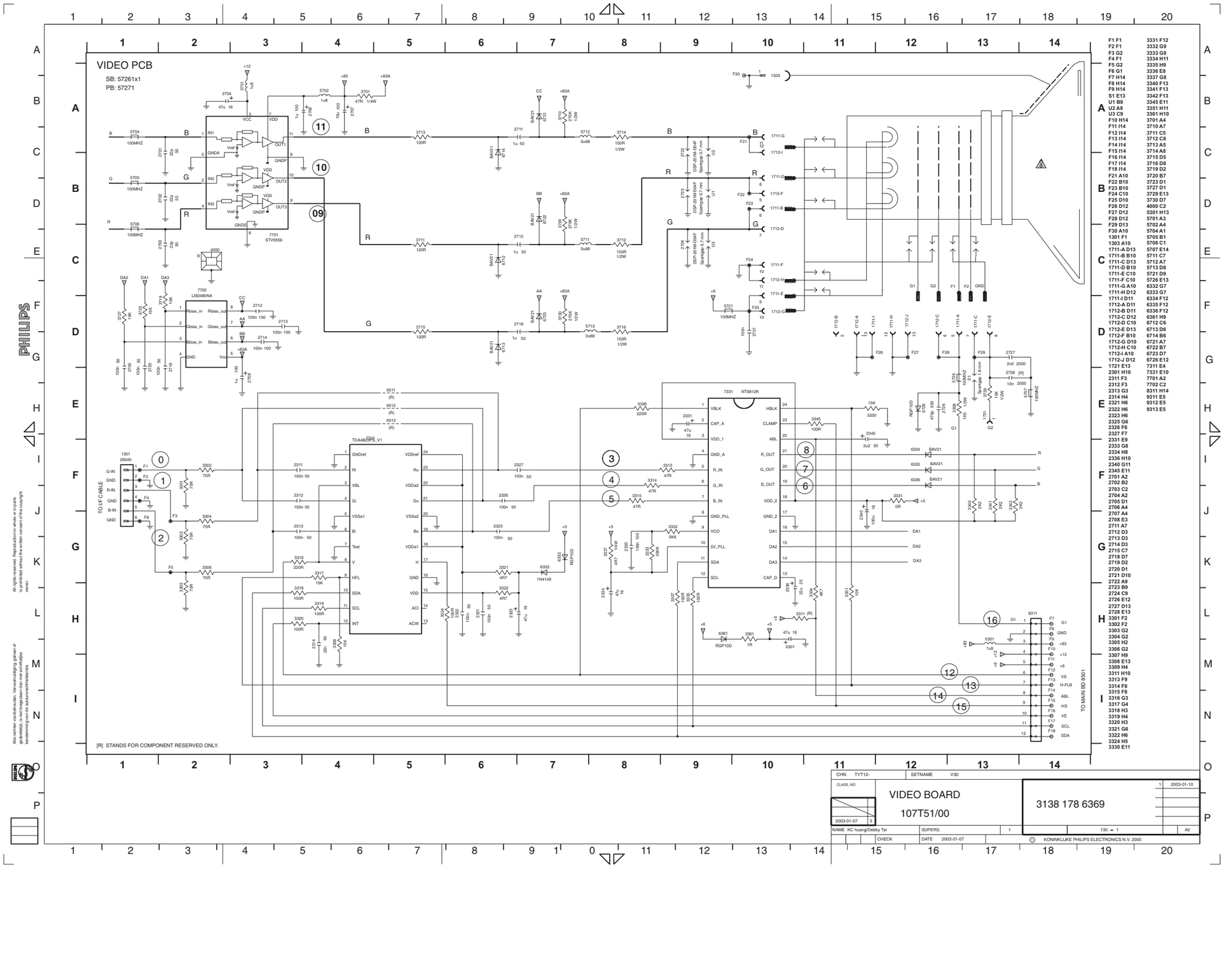


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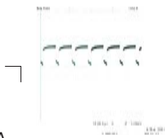
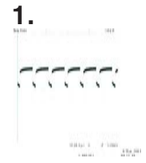
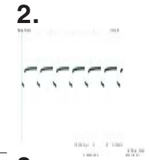
CN: TYT12-	V30 107T5		
CLASS NO. 3XX000	PWR+DEF Board V30 CRT MTR	3138 103 5725	1 2003-01-10
2003-01-10 3			
NAME KC Huang/D Tai	SUPERS 2	10 132 - 2	A3
CHECK	DATE 2003-01-10	© Philips Electronics N.V.	

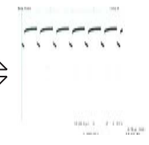
Schematic Diagram of Video board

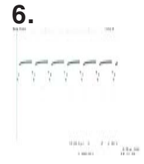
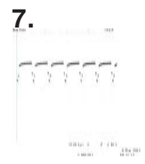
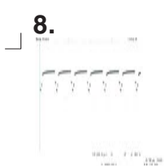
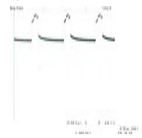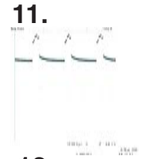


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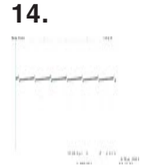
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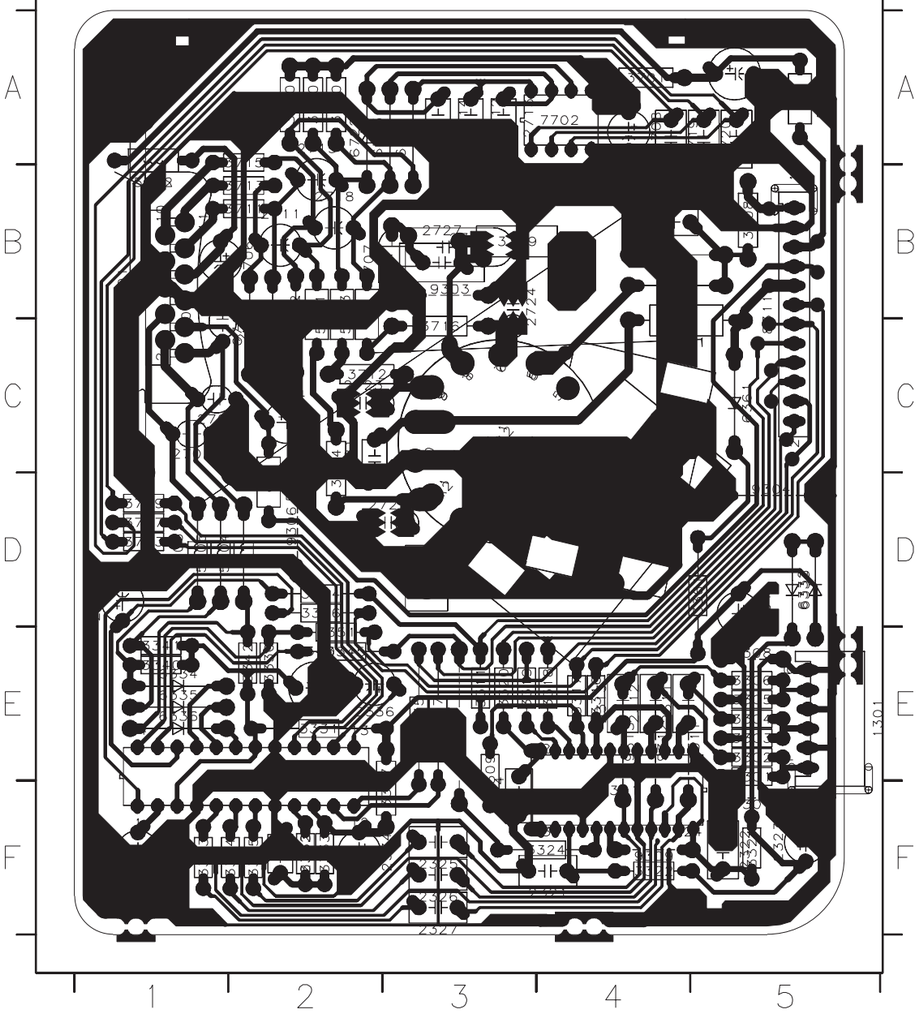
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C. B. A. of Video board

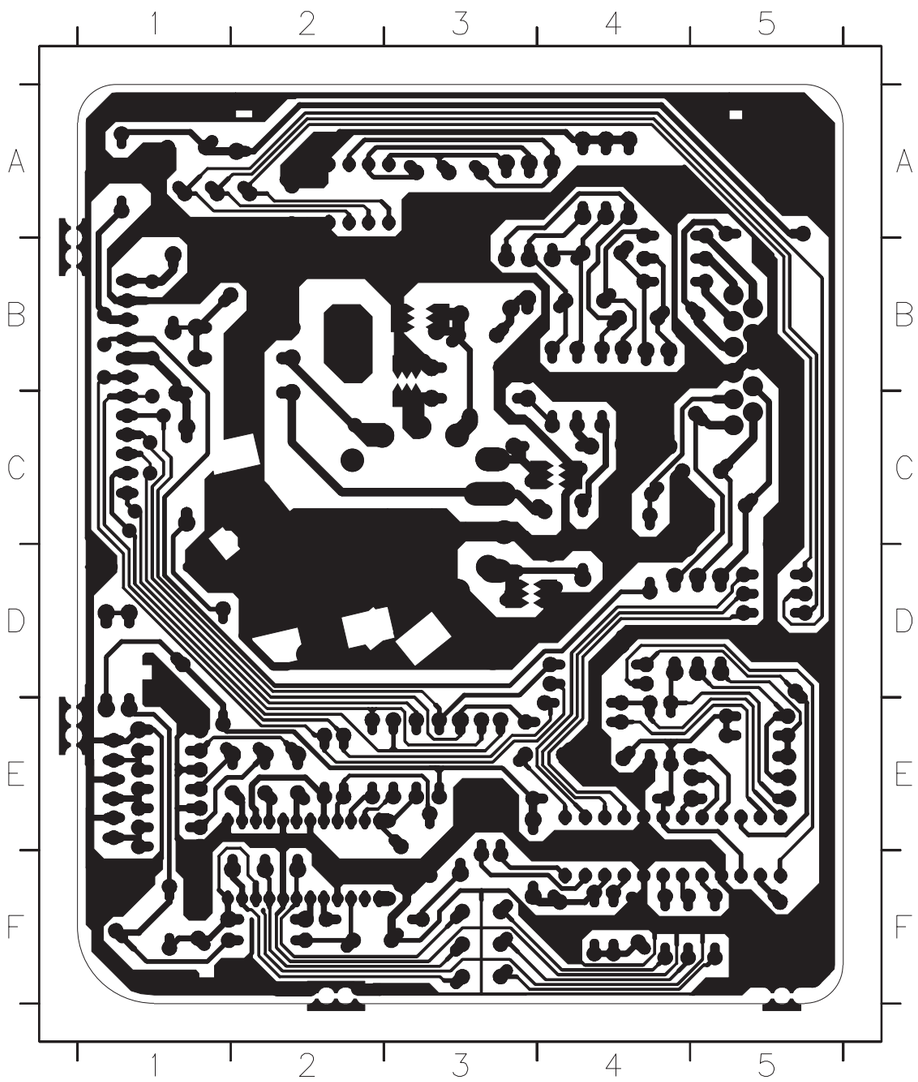


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1711	C3	3342	E2	5707	B2	7331	E2
1712	C3	3345	E2	5711	B2	7701	B1
1721	B4	3351	E2	5712	B2	7702	A4
2301	D5	3361	D5	5713	B2	8311	B5
2311	E4	3701	A4	5721	C4	9301	F5
2312	E4	3710	A2	5726	B4	9303	B3
2313	E4	3711	B2	6332	D5	9304	D5
2314	F3	3712	C2	6333	D5	9306	D2
2321	F4	3713	B2	6334	E1	9307	E3
2322	F5	3714	C2	6335	E1	9308	E5
2323	F5	3715	A2	6336	E1	9309	F4
2325	F3	3716	C3	6361	C5	9311	E5
2326	F3	3719	D1	6712	C2	9312	E4
2327	F3	3720	A2	6713	C2	9313	E4
2331	F1	3723	D1	6714	C2		
2333	F2	3727	D1	6721	A3		
2334	F3	3729	B3	6722	A2		
2336	E2	3730	A2	6723	A2		
2340	E2	4000	B1				
2345	D1	5301	A5				
2701	C2	5701	D2				
2702	C1	5702	B1				
2703	C1	5704	D1				
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2706	B2						
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3321	F5						
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3324	F4						
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3333	F2						
3334	D2						
3335	E3						
3336	D2						
3337	F3						

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CN: TYT12-		V30 107T5	
CLASS NO. 3XX000	Video Board V30 CRT MTR	3138 103 5726	1 2003-01-10
2003-01-10 3			
NAME KC Huang/D Tai	SUPERS	10 132 - 1	A3
CHECK	DATE 2003-01-10	© Philips Electronics N.V.	

C. B. A. of Video board



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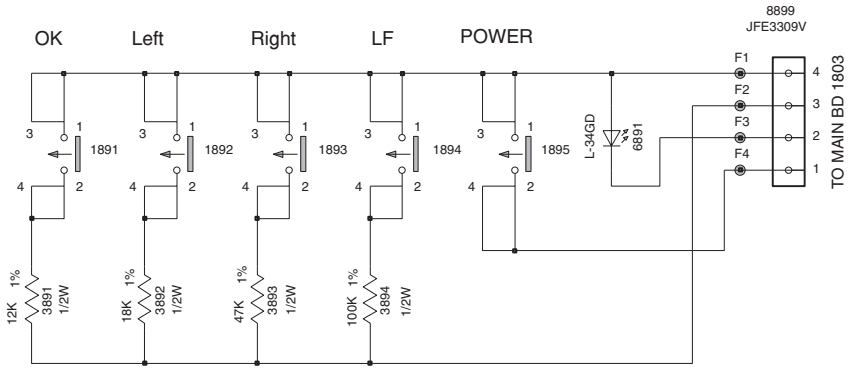
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1 2 2003-01-10 3			
NAME KC Huang/D Tai	SUPERS	10 132 - 2	A3
CHECK	DATE 2003-01-10	© Philips Electronics N.V.	

F1 C3
F2 C3
F3 C3
F4 D3
1891 D1
1892 D1
1893 D2
1894 D2
1895 D3
3891 D1
3892 D1
3893 D1
3894 D2
6891 C3
8899 C3

CONTROL PCB

SB: 57231 x1

PB: 57271



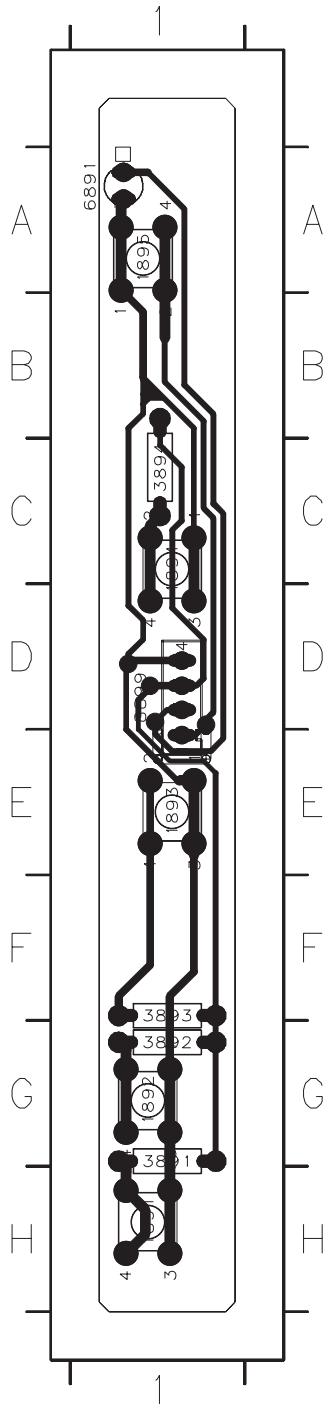
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CHN TYT12-	SETNAME V30		
CLASS_NO	CONTROL BOARD 107T51/00	3138 178 6374	1 2003-01-03
2003-01-03 3			
NAME Roland/Ivy Su	SUPERS.	1	130 – 1 A4
CHECK	DATE 2003-01-03	© KONINKLIJKE PHILIPS ELECTRONICS N.V. 2000	

C. B. A. of Control board



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CN: TYT12- | V20 107E5

CLASS NO. 3XX000

Control Board
V20 CRT MTR

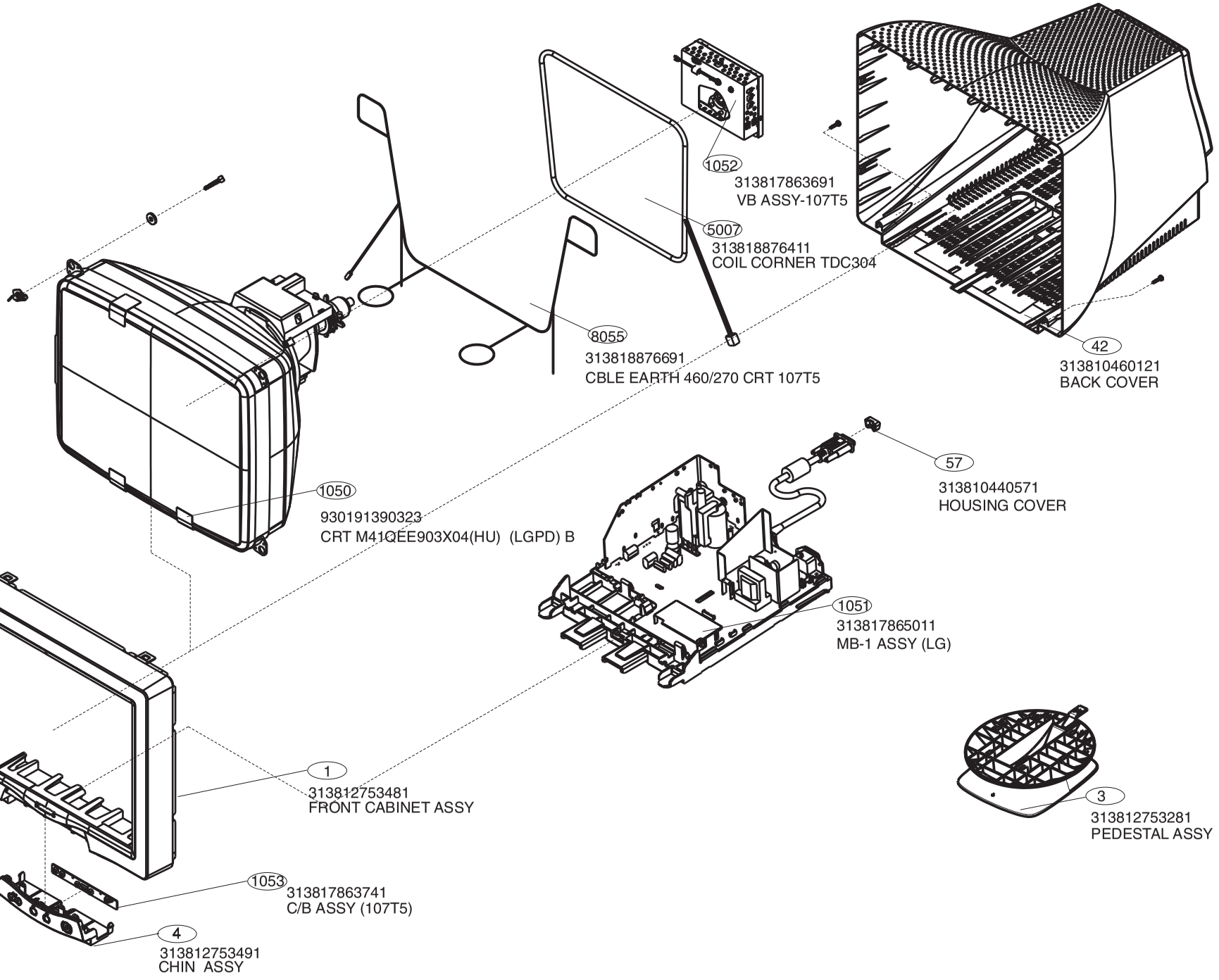
3138 103 5723

1 2002-12-18

2002-12-18 3

NAME Roland/Ivy Su | SUPERS | 1 | 10 | 132 - 1 | A4

CHECK | DATE 2002-12-18 | © Philips Electronics N.V.



Go to cover page

Recommend Parts List

Go to cover page

Model : V30 107T50/00 863900012717

1	313812753481	FRONT CABINET ASSY
3	313812753281	PEDESTAL ASSY
42	313810460121	BACK COVER
4	313812753491	CHIN ASSY
450	313810662011	CARTON
451	313810661831	CUSHION-TOP
452	313810661841	CUSHION-BTM
454	313810656581	PE BAG
601	313811704781	E-D.F.U. ASSY
1161	243807098118	MAINSCORD (220V)-1.5M -CM3000
1162	313818876531	CORD SUB-D 15/1M45/6+7 PIN GY
1102	242208600208	FUSE 5X20 HT 4A 250V IEC B
1103	242213207402	RELAY 1P 12V 10/80A SDT-SS L
1711	242250080083	SOC CRT V 9P F 12P 14-17KV Y
1801	243854300061	RES XTL 12MHZ 30P HC49/U B
5007	313818876411	COIL CORNER TDC304
5101	313816872811	LINE FILTER (143Y1R5)
8055	313818876691	CBLE EARTH 460/270 CRT 107T5
7102	935267356112	IC TEA1507P/N1 (PHSE) L
7103	933953420676	TRA SIG TBC338-40 (TOSJ) A
7105	932214014667	OPT CP TCET1103(G) (VISH) L
7152	933826850126	THYRIS BT169B (PHSE) A
7153	932208234676	IC L78L05ACZ (ST00) A
7154	932209011673	TRA SIG BC548C (KEC0) A
7155	932208697676	IC TL431ACZ-AP S (ST00) A
7262	932212802687	FET POW IRF540 (ST00) L
7264	932217995687	FET POW IRF630B (FSC0) L
7311	935270542112	IC TDA4823PS/V1 (PHSE) L
7331	932219319682	IC NT6812K (NOVA) L
7403	933567130126	TRA SIG BC517 (PHSE) A
7404	933567120126	TRA SIG BC516 (PHSE) A
7501	932219219682	IC TDA9112A (ST00) L
7502	932214472676	TRA SIG BF423 (KEC0) A
7504	933450090126	TRA SIG PH2369 (PHSE) A
7601	934003960126	FET SIG BSN254A (PHSE) A
7603	932210142676	TRA SIG BC558C (KEC0) A
7614	933179570126	TRA SIG BC328-40 (PHSE) A
7616	934025870126	TRA SIG MPSA44 (PHSE) A
7702	932216674682	IC LM2480NA (NSC0) L
7801	823827444721	CPU,IC
7802	932212662682	IC M24C16-BN6 (ST00) L (OSD IC)

Model : V30 107T50/00 863900012717

1	313812753481	FRONT CABINET ASSY
3	313812753281	PEDESTAL ASSY
4	313812753491	CHIN ASSY
42	313810460121	BACK COVER
1050	930191390323	CRT M41QEE903X04(HU) (LGPD) E

Various

450	313810662011	CARTON
451	313810661831	CUSHION-TOP
452	313810661841	CUSHION-BTM
454	313810656581	PE BAG
601	313811704781	E-D.F.U. ASSY

Accessories

1161 ▲	243807098118	MAINSCORD (220V)-1.5M -CM3000
1162	313818876531	CORD SUB-D 15/1M45/6+7 PIN GY

Main Panel

1051	313817865011	MB-1 ASSY (LG)
1052	313817863691	VB ASSY-107T5
1053	313817863741	C/B ASSY (107T5)

Main Panel

1051 313817865011 MB-1 ASSY (LG)

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2109	203830250125	CAP POL MEF 100V S 220N PM10 A
2110	203803527303	ELCAP KM 25V S 47U PM20 A
2111	203830250103	CAP MPOL 100V S 33N PM5 A
2112	202055490158	CERSAF CD 250V S 2N2 PM20 B
2151	203803521701	ELCAP GS 100V S 4U7 PM20 A
2152	202202000717	ELCAP GS 160V S 47U PM20 B
2153	203803521706	ELCAP GS 100V S 100U PM20 B
2154	203803521217	ELCAP GS 16V S 1000U PM20 B
2155	823827444641	ELE CAP 1000U/16V 105 DEGREE C
2156	203803511222	ELCAP REA 16V S 470U PM20 A
2157	203830250229	CAP MPOL 250V S 10N PM5 A
2158	202055790142	CER2 DC B 500V S 100P PM10 A
2160	202202000716	ELCAP GS 10V S 4700U PM20 B
2161	202055290834	CER2 DC F 50V S 22N P8020 A
2162	203803521206	ELCAP GS 16V S 47U PM20 A
2163	203803521206	ELCAP GS 16V S 47U PM20 A
2164	203803521206	ELCAP GS 16V S 47U PM20 A
2251	203803521301	ELCAP GS 25V S 2U2 PM20 A
2252	203830100333	CAP MPP MPS 250V S 910N PM5 B
2255	203830100427	CAP MPP MPSA 400V S 330N PM5 I
2256	225279508453	CER2 DC Y5V 50V 100N P8020 A
2257	203830100229	CAP MPP MPS 250V S 330N PM5 B
2261	225279508453	CER2 DC Y5V 50V 100N P8020 A
2262	203830100223	CAP MPP MPS 250V S 150N PM5 B
2401	203803527205	ELCAP KM 16V S 470U PM20 A
2402	203803527504	ELCAP KM 50V S 47U PM20 A
2403	202055290807	CER2 DC B 50V S 1N PM10 A
2404	203803527205	ELCAP KM 16V S 470U PM20 A
2405	202055290807	CER2 DC B 50V S 1N PM10 A
2406	202055290834	CER2 DC F 50V S 22N P8020 A
2408	203830250098	CAP MPOL 100V S 330N PM10 A
2409	203803521301	ELCAP GS 25V S 2U2 PM20 A
2501	202055290794	CER2 DC B 50V S 100P PM10 A
2502	203830250212	CAP MPOL 100V S 100N PM5 A
2503	203830250089	CAP MPOL 100V S 10N PM10 A
2504	203830150173	CAP PP PPN 100V S 1N PM5 A
2505	203830250089	CAP MPOL 100V S 10N PM10 A
2506	203803521301	ELCAP GS 25V S 2U2 PM20 A
2507	203803521303	ELCAP GS 25V S 10U PM20 A
2508	225279508453	CER2 DC Y5V 50V 100N P8020 A
2509	203803521206	ELCAP GS 16V S 47U PM20 A
2511	203803521303	ELCAP GS 25V S 10U PM20 A
2512	203830150191	CAP PP PPN 100V S 3N3 PM2 A
2513	203803521207	ELCAP GS 16V S 100U PM20 A
2514	225279508453	CER2 DC Y5V 50V 100N P8020 A
2515	203830250212	CAP MPOL 100V S 100N PM5 A
2516	203830250099	CAP MPOL 100V S 470N PM10 A
2517	203803521206	ELCAP GS 16V S 47U PM20 A
2518	203803521701	ELCAP GS 100V S 4U7 PM20 A
2601	225260808011	CER2 DC X7R 500V S 100P PM10 A
2602	203803511701	ELCAP REA 100V S 1U PM20 A
2603	203803521701	ELCAP GS 100V S 4U7 PM20 A
2604	202055290816	CER2 DC B 50V S 4N7 PM10 A
2605	225279508453	CER2 DC Y5V 50V 100N P8020 A
2606	202055290803	CER2 DC B 50V S 470P PM10 A
2607	203830250121	CAP MPOL 100V S 150N PM10 A
2608	203830100119	CAP PPS 1K6V S 4N7 PM5 B
2609	202202000729	ELCAP GS 250V S 22U PM20 B
2610	203830100109	CAP PP PPN 630V S 3N3 PM5 B
2611	203830250093	CAP MPOL 100V S 22N PM10 A
2612	203830250229	CAP MPOL 250V S 10N PM5 A
2613	203830250229	CAP MPOL 250V S 10N PM5 A
2614	203803523601	ELCAP BP BP 63V S 3U3 PM10 B
2615	225279508453	CER2 DC Y5V 50V 100N P8020 A
2616	203803521201	ELCAP GS 16V S 10U PM20 A
2617	225232512104	CER2 ML X7R 50V S 100N PM10 A
2618	203830250089	CAP MPOL 100V S 10N PM10 A
2625	225264133527	CER2 DC Z5U 1KV S 5N6 PM20 B
2626	203803521302	ELCAP GS 25V S 4U7 PM20 A
2628	203830150301	CAP PP PPN 250V S 10N PM5 A
2629	203803513904	ELCAP RGA 250V S 22U PM20 B
2630	203803513803	ELCAP RGA 160V S 10U PM20 B
2631	203830250089	CAP MPOL 100V S 10N PM10 A
2632	202055290814	CER2 DC B 50V S 3N3 PM10 A
2633	225260214266	CER2 DC X7R 2KV S 270P PM10 A
2634	225260214216	CER2 DC X7R 2KV S 220P PM10 A
2636	225260214216	CER2 DC X7R 2KV S 220P PM10 A
2637	225260214266	CER2 DC X7R 2KV S 270P PM10 A
2801	203803521201	ELCAP GS 16V S 10U PM20 A
2802	203803521206	ELCAP GS 16V S 47U PM20 A
2803	202055290594	CER1 DC NP0 50V S 22P PM5 A
2804	202055290594	CER1 DC NP0 50V S 22P PM5 A
2805	202055290598	CER1 DC NP0 50V S 47P PM5 A
2806	202055290807	CER2 DC B 50V S 1N PM10 A
2807	203801750222	ELCAP RE 50V S 2U2 PM20 R
2808	203803521302	ELCAP GS 25V S 4U7 PM20 A
2813	202055290834	CER2 DC F 50V S 22N P8020 A
2814	202055290834	CER2 DC F 50V S 22N P8020 A
2815	203801750222	ELCAP RE 50V S 2U2 PM20 R

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3101	231291514704	RST MFLM MBB0207 A 470K PM1 A
3102	231291514704	RST MFLM MBB0207 A 470K PM1 A
3103	313810050511	MET FLM RST RSS2T 47K 6E
3104	212020200021	RST FUSE RFU1/3 A 15R PM5 A
3105	213810113471	RST CRB CFR-12 A 470R PM5 A
3106	213810113563	RST CRB CFR-12 A 56K PM5 A
3107	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3108	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3109	213811273437	RST CRB CFR-25 A 0R43 PM5 A
3110	213811273684	RST CRB CFR-25 A 680K PM5 A
3111	213811273364	RST CRB CFR-25 A 360K PM5 A
3112	212211000298	RST MFLM MF1/2WS A 1R PM1 A
3113	213810113102	RST CRB CFR-12 A 1K PM5 A
3114	213810113103	RST CRB CFR-12 A 10K PM5 A
3115	213866000027	NTC DC SCK-104 S 10R PM15 B
3116	212266300024	PTC 270V S 9R PM20 B
3117	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
3118	231291511204	RST MFLM MBB0207 A 120K PM1 A
3119	213810113151	RST CRB CFR-12 A 150R PM5 A
3152	231291511504	RST MFLM MBB0207 A 150K PM1 A
3153	231291511504	RST MFLM MBB0207 A 150K PM1 A
3154	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3155	213810113479	RST CRB CFR-12 A 47R PM5 A
3156	213810113102	RST CRB CFR-12 A 1K PM5 A
3157	231291511004	RST MFLM MBB0207 A 100K PM1 A
3158	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3159	213810113392	RST CRB CFR-12 A 3K9 PM5 A
3160	213810113102	RST CRB CFR-12 A 1K PM5 A
3161	212211000367	RST MFLM MF1/2WS A 2K7 PM1 A
3162	212211000339	RST MFLM MF1/2WS A 240R PM1 A
3163	213810113153	RST CRB CFR-12 A 15K PM5 A
3164	213810113103	RST CRB CFR-12 A 10K PM5 A
3251	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3252	213810113333	RST CRB CFR-12 A 33K PM5 A
3253	213810113229	RST CRB CFR-12 A 22R PM5 A
3254	213810113154	RST CRB CFR-12 A 150K PM5 A
3256	213810113223	RST CRB CFR-12 A 22K PM5 A
3257	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3258	213810113229	RST CRB CFR-12 A 22R PM5 A
3259	213810113154	RST CRB CFR-12 A 150K PM5 A
3261	213810113333	RST CRB CFR-12 A 33K PM5 A
3264	213810113223	RST CRB CFR-12 A 22K PM5 A
3266	213810113229	RST CRB CFR-12 A 22R PM5 A
3267	213810113154	RST CRB CFR-12 A 150K PM5 A
3268	213810113333	RST CRB CFR-12 A 33K PM5 A
3269	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3272	213810113223	RST CRB CFR-12 A 22K PM5 A
3401	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
3402	212211000385	RST MFLM MF1/2WS A 12K PM1 A
3403	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3404	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3405	212211000317	RST MFLM MF1/2WS A 15R PM1 A
3406	212211000298	RST MFLM MF1/2WS A 1R PM1 A
3407	212211000341	RST MFLM MF1/2WS A 270R PM1 A
3408	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
3409	212211000304	RST MFLM MF1/2WS A 2R2 PM1 A
3410	212261200062	NTC DC TTC-501 S 500R PM5 A
3412	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3413	213810113103	RST CRB CFR-12 A 10K PM5 A
3414	213810113102	RST CRB CFR-12 A 1K PM5 A
3415	213811273392	RST CRB CFR-25 A 3K9 PM5 A
3422	213810113102	RST CRB CFR-12 A 1K PM5 A
3501	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3502	213811273562	RST CRB CFR-25 A 5K6 PM5 A
3503	231291511504	RST MFLM MBB0207 A 150K PM1 A
3504	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3505	213810113103	RST CRB CFR-12 A 10K PM5 A
3506	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3507	213810113479	RST CRB CFR-12 A 47R PM5 A
3508	213810113471	RST CRB CFR-12 A 470R PM5 A
3509	212211000374	RST MFLM MF1/2WS A 4K7 PM1 A
3510	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3511	213810113152	RST CRB CFR-12 A 1K5 PM5 A
3512	213810113103	RST CRB CFR-12 A 10K PM5 A
3513	213810113562	RST CRB CFR-12 A 5K6 PM5 A
3514	213810113123	RST CRB CFR-12 A 12K PM5 A
3515	231291511804	RST MFLM MBB0207 A 180K PM1 A
3516	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3517	213811273474	RST CRB CFR-25 A 470K PM5 A
3520	213810113103	RST CRB CFR-12 A 10K PM5 A
3521	213810113101	RST CRB CFR-12 A 100R PM5 A
3522	213810113101	RST CRB CFR-12 A 100R PM5 A
3523	212211000387	RST MFLM MF1/2WS A 15K PM1 A
3524	212211000393	RST MFLM MF1/2WS A 24K PM1 A
3528	213810113103	RST CRB CFR-12 A 10K PM5 A
3529	231291511004	RST MFLM MBB0207 A 100K PM1 A
3601	212211000356	RST MFLM MF1/2WS A 1K PM1 A
3602	213811273102	RST CRB CFR-25 A 1K PM5 A
3603	213810113103	RST CRB CFR-12 A 10K PM5 A
3604	213810113479	RST CRB CFR-12 A 47R PM5 A
3606	212010592167	RST MOX 2W RSS S 8K2 PM5 B
3607	212010592402	RST MOX 3W RSS S 1R2 PM5 B
3608	212211000315	RST MFLM MF1/2WS A 10R PM1 A
3610	212211000374	RST MFLM MF1/2WS A 4K7 PM1 A
3611	212211000392	RST MFLM MF1/2WS A 22K PM1 A
3613	213810113102	RST CRB CFR-12 A 1K PM5 A
3614	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3615	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3616	212020200021	RST FUSE RFU1/3 A 15R PM5 A
3617	212010592155	RST MOX 2W RSS S 100R PM5 B
3618	212211000312	RST MFLM MF1/2WS A 5R6 PM1 A
3619	213810113102	RST CRB CFR-12 A 1K PM5 A
3620	212211000312	RST MFLM MF1/2WS A 5R6 PM1 A
3621	213810113273	RST CRB CFR-12 A 27K PM5 A
3622	213810113683	RST CRB CFR-12 A 68K PM5 A
3623	213810113471	RST CRB CFR-12 A 470R PM5 A
3624	213811273102	RST CRB CFR-25 A 1K PM5 A
3626	213811273108	RST CRB CFR-25 A 1R PM5 A
3628	212211000403	RST MFLM MF1/2WS A 56K PM1 A
3629	212010592403	RST MOX 1W RSS S 180R PM5 B
3631	213810113103	RST CRB CFR-12 A 10K PM5 A
3632	212211000356	RST MFLM MF1/2WS A 1K PM1 A
3633	213811273479	RST CRB CFR-25 A 47R PM5 A
3636	213810113223	RST CRB CFR-12 A 22K PM5 A
3638	213810113151	RST CRB CFR-12 A 150R PM5 A
3640	213810113182	RST CRB CFR-12 A 1K8 PM5 A
3641	213810113393	RST CRB CFR-12 A 39K PM5 A
3642	213810500438	RST MGL RMU14 A 4M7 PM1 A
3643	213810500431	RST MGL RMU14 A 330K PM1 A
3644	213810113681	RST CRB CFR-12 A 680R PM5 A
3648	213810113103	RST CRB CFR-12 A 10K PM5 A
3652	213810113223	RST CRB CFR-12 A 22K PM5 A
3653	213810113223	RST CRB CFR-12 A 22K PM5 A
3655	231291511504	RST MFLM MBB0207 A 150K PM1 A
3656	231291511804	RST MFLM MBB0207 A 180K PM1 A
3657	213810113104	RST CRB CFR-12 A 100K PM5 A
3658	212211000365	RST MFLM MF1/2WS A 2K2 PM1 A
3801	213810113332	RST CRB CFR-12 A 3K3 PM5 A
3802	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3803	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3804	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3806	213810113101	RST CRB CFR-12 A 100R PM5 A
3807	213810113101	RST CRB CFR-12 A 100R PM5 A
3808	213810113101	RST CRB CFR-12 A 100R PM5 A
3809	213810113103	RST CRB CFR-12 A 10K PM5 A
3810	213810113562	RST CRB CFR-12 A 5K6 PM5 A
3812	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3813	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3814	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3815	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3816	213810113109	RST CRB CFR-12 A 10R PM5 A
3817	213810113101	RST CRB CFR-12 A 100R PM5 A
3818	213811273101	RST CRB CFR-25 A 100R PM5 A
3819	213811273471	RST CRB CFR-25 A 470R PM5 A
3820	212211000392	RST MFLM MF1/2WS A 22K PM1 A
3823	213810113473	RST CRB CFR-12 A 47K PM5 A
3824	213810113123	RST CRB CFR-12 A 12K PM5 A
3825	213810113822	RST CRB CFR-12 A 8K2 PM5 A

Spare Parts List

3826	213810113472	RST CRB CFR-12 A 4K7 PM5 A	
3827	213810113472	RST CRB CFR-12 A 4K7 PM5 A	
3828	213810113103	RST CRB CFR-12 A 10K PM5 A	
3829	213810113472	RST CRB CFR-12 A 4K7 PM5 A	
5007	313818876411	COIL CORNER TDC304	
5101	313816872811	LINE FILTER (143Y1R5)	
5102	243853598058	IND FXD BEAD EMI 100MHZ 80R A	
5103	243853598058	IND FXD BEAD EMI 100MHZ 80R A	
5151	242253600036	IND FXD TSL0808 S 100U PM10 A	
5152	242253600036	IND FXD TSL0808 S 100U PM10 A	
5153	242253600036	IND FXD TSL0808 S 100U PM10 A	
5154	242253600036	IND FXD TSL0808 S 100U PM10 A	
5156	313818876731	TFM SMT LAYER SRW35EC-T85V1	
5601	313818870361	DRIVER XFMR (HJC-S0738A)	
5602	313816872631	BEAD COIL	
5603	313816872631	BEAD COIL	
5604	313816872631	BEAD COIL	
5605	313816872631	BEAD COIL	
5606	242253600037	IND FXD TSL0808 S 3700U PM5 A	
5607	313818876741	COI CHOKE 120UH 190mOHM DR1	
5608	313816878191	LINEARITY COIL	
5610	313818876771	TFM LOT LAYER 11mm WIRE	
5611	313818871121	DRUM CHOKE	
5612	243853598058	IND FXD BEAD EMI 100MHZ 80R A	
5613	243853598058	IND FXD BEAD EMI 100MHZ 80R A	
5671	313818875111	TFM POW DAF SRW19ES-T36V005	
6101	932215736682	BRIDGE GBU4K (PAJI) B	
6102	933723420133	DIO REC BYD33J A (PHSE) A	
6103	933751660673	DIO REC RGP10D A (GI00) A	
6104	933189210133	DIO SIG BAV21 A (PHSE) A	
6105	933189210133	DIO SIG BAV21 A (PHSE) A	
6106	933083990133	DIO SIG 1N4148 A (PHSE) A	
6151	933730980133	DIO REC BYV36C A (PHSE) A	
6152	933723420133	DIO REC BYD33J A (PHSE) A	
6153	933730980133	DIO REC BYV36C A (PHSE) A	
6154	933957760673	DIO REC SB140 A (GI00) A	
6155	932210346673	DIO REC SBYV27-200 A (GI00) A	
6156	933751660673	DIO REC RGP10D A (GI00) A	
6157	933117770133	DIO REG BZX79-C8V2 A (PHSE) A	
6158	933751660673	DIO REC RGP10D A (GI00) A	
6159	933083990133	DIO SIG 1N4148 A (PHSE) A	
6160	933083990133	DIO SIG 1N4148 A (PHSE) A	
6161	933117760133	DIO REG BZX79-C7V5 A (PHSE) A	
6162	933189210133	DIO SIG BAV21 A (PHSE) A	
6251	933723420133	DIO REC BYD33J A (PHSE) A	
6252	933723420133	DIO REC BYD33J A (PHSE) A	
6253	933723420133	DIO REC BYD33J A (PHSE) A	
6332	933751660673	DIO REC RGP10D A (GI00) A	
6401	932210346673	DIO REC SBYV27-200 A (GI00) A	
6502	933414680133	DIO REG BZX79-C2V4 A (PHSE) A	
6503	933189210133	DIO SIG BAV21 A (PHSE) A	
6504	933083990133	DIO SIG 1N4148 A (PHSE) A	
6507	933189210133	DIO SIG BAV21 A (PHSE) A	
6601	933083990133	DIO SIG 1N4148 A (PHSE) A	
6602	933493960673	DIO REC RGP10G A (GI00) A	
6603	933957760673	DIO REC SB140 A (GI00) A	
6604	933751660673	DIO REC RGP10D A (GI00) A	
6606	933189210133	DIO SIG BAV21 A (PHSE) A	
6607	933189210133	DIO SIG BAV21 A (PHSE) A	
6608	933189210133	DIO SIG BAV21 A (PHSE) A	
6609	933083990133	DIO SIG 1N4148 A (PHSE) A	
6611	933117830133	DIO REG BZX79-C15 A (PHSE) A	
6612	933723420133	DIO REC BYD33J A (PHSE) A	
6613	933493960673	DIO REC RGP10G A (GI00) A	
6614	932205787673	DIO REC EGP20G A (GI00) A	
6615	933189210133	DIO SIG BAV21 A (PHSE) A	
6616	933189210133	DIO SIG BAV21 A (PHSE) A	
6617	933083990133	DIO SIG 1N4148 A (PHSE) A	
6801	933957760673	DIO REC SB140 A (GI00) A	
6802	933166820133	DIO REG BZX79 B5V6 A (PHSE) A	
6803	933166820133	DIO REG BZX79 B5V6 A (PHSE) A	
6804	933166820133	DIO REG BZX79 B5V6 A (PHSE) A	
6805	933166820133	DIO REG BZX79 B5V6 A (PHSE) A	
6806	933166820133	DIO REG BZX79 B5V6 A (PHSE) A	
7102	935267356112	IC TEA1507P/N1 (PHSE) L	
7103	933953420676	TRA SIG TBC338-40 (TOSJ) A	
7105	932214014667	OPT CP TCET1103(G) (VISH) L	
7151	933953420676	TRA SIG TBC338-40 (TOSJ) A	
7152	933826850126	THYRIS BT169B (PHSE) A	
7153	932208234676	IC L78L05ACZ (ST00) A	
7154	932209011673	TRA SIG BC548C (KEC0) A	
7155	932208697676	IC TL431ACZ-AP S (ST00) A	
7252	932209011673	TRA SIG BC548C (KEC0) A	
7253	932209011673	TRA SIG BC548C (KEC0) A	
7254	932209011673	TRA SIG BC548C (KEC0) A	
7262	932212802687	FET POW IRF540 (ST00) L	
7263	932212802687	FET POW IRF540 (ST00) L	
7264	932217995687	FET POW IRF630B (FSC0) L	
7402	932209011673	TRA SIG BC548C (KEC0) A	
7403	933567130126	TRA SIG BC517 (PHSE) A	
7404	933567120126	TRA SIG BC516 (PHSE) A	
7501	932219219682	IC TDA9112A (ST00) L	
7502	932214472676	TRA SIG BF423 (KEC0) A	
7504	933450090126	TRA SIG PH2369 (PHSE) A	
7601	934003960126	FET SIG BSN254A (PHSE) A	
7602	932209011673	TRA SIG BC548C (KEC0) A	
7603	932210142676	TRA SIG BC558C (KEC0) A	
7606	933953420676	TRA SIG TBC338-40 (TOSJ) A	
7613	933953420676	TRA SIG TBC338-40 (TOSJ) A	
7614	933179570126	TRA SIG BC328-40 (PHSE) A	
7616	934025870126	TRA SIG MPSA44 (PHSE) A	
7801	823827444721	CPU,IC	
7802	932212662682	IC M24C16-BN6 (ST00) L	
7803	932209011673	TRA SIG BC548C (KEC0) A	

Audio Panel

1052	313817863691	VB ASSY-107T5
2101	203831000014	CAP MPP 275V S 680N PM10 B
2103	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2104	202055490163	CERSAF NSB 250V S 2N2 PM20 B
2105	202202000725	ELCAP LP 450V S 100U PM20 B
2107	203830150301	CAP PP PPN 250V S 10N PM5 A
2108	225260214216	CER2 DC X7R 2KV S 220P PM10 A
2301	203803521206	ELCAP GS 16V S 47U PM20 A
2311	225279508453	CER2 DC Y5V 50V 100N P8020 A
2312	225279508453	CER2 DC Y5V 50V 100N P8020 A
2313	225279508453	CER2 DC Y5V 50V 100N P8020 A
2314	202055290834	CER2 DC F 50V S 22N P8020 A
2321	225279508453	CER2 DC Y5V 50V 100N P8020 A
2322	225279508453	CER2 DC Y5V 50V 100N P8020 A
2323	203803521206	ELCAP GS 16V S 47U PM20 A
2325	225279508453	CER2 DC Y5V 50V 100N P8020 A
2326	225279508453	CER2 DC Y5V 50V 100N P8020 A
2327	225279508453	CER2 DC Y5V 50V 100N P8020 A
2331	203803527201	ELCAP KM 16V S 47U PM20 A
2333	225232626104	CER2 ML X7R 100V S 100N PM10 A
2334	203803527201	ELCAP KM 16V S 47U PM20 A
2336	203803527301	ELCAP KM 25V S 22U PM20 A
2340	203803527202	ELCAP KM 16V S 100U PM20 A
2345	823827444651	ELE CAP 2U2/50V 105 DEGREE C
2701	202055290594	CER1 DC NP0 50V S 22P PM5 A
2702	202055290594	CER1 DC NP0 50V S 22P PM5 A
2703	202055290594	CER1 DC NP0 50V S 22P PM5 A
2704	203803527201	ELCAP KM 16V S 47U PM20 A
2705	225279508453	CER2 DC Y5V 50V 100N P8020 A
2706	203803513708	ELCAP RGA 100V S 1U PM20 A
2707	203803521702	ELCAP GS 100V S 10U PM20 A
2708	203803513708	ELCAP RGA 100V S 1U PM20 A
2711	202203600002	ELCAP BP NK 50V S 1U PM20 A
2712	225232626104	CER2 ML X7R 100V S 100N PM10 A
2713	225232626104	CER2 ML X7R 100V S 100N PM10 A
2714	225232626104	CER2 ML X7R 100V S 100N PM10 A
2715	202203600002	ELCAP BP NK 50V S 1U PM20 A
2718	202203600002	ELCAP BP NK 50V S 1U PM20 A
2719	225279508453	CER2 DC Y5V 50V 100N P8020 A
2720	225279508453	CER2 DC Y5V 50V 100N P8020 A
2721	225232626104	CER2 ML X7R 100V S 100N PM10 A
2726	202055790146	CER2 DC B 500V S 470P PM10 A
2727	225261214226	CER2 DC Y5P 2KV S 2N2 PM10 A
3301	213810113759	RST CRB CFR-12 A 75R PM5 A
3302	213810113759	RST CRB CFR-12 A 75R PM5 A
3303	213810113759	RST CRB CFR-12 A 75R PM5 A
3304	213810113759	RST CRB CFR-12 A 75R PM5 A
3305	213810113759	RST CRB CFR-12 A 75R PM5 A
3306	213810113759	RST CRB CFR-12 A 75R PM5 A
3307	213810113101	RST CRB CFR-12 A 100R PM5 A
3308	212211000361	RST MFLM MF1/2WS A 1K5 PM1 A
3309	213810113153	RST CRB CFR-12 A 15K PM5 A
3313	213810113479	RST CRB CFR-12 A 47R PM5 A
3314	213810113479	RST CRB CFR-12 A 47R PM5 A
3315	213810113479	RST CRB CFR-12 A 47R PM5 A
3316	213810113221	RST CRB CFR-12 A 220R PM5 A
3317	213810113153	RST CRB CFR-12 A 15K PM5 A
3318	213810113101	RST CRB CFR-12 A 100R PM5 A
3319	213810113101	RST CRB CFR-12 A 100R PM5 A
3320	213810113101	RST CRB CFR-12 A 100R PM5 A
3321	213810113478	RST CRB CFR-12 A 4R7 PM5 A
3322	213810113478	RST CRB CFR-12 A 4R7 PM5 A
3324	213810113101	RST CRB CFR-12 A 100R PM5 A
3330	213810113153	RST CRB CFR-12 A 15K PM5 A
3331	213810100369	RST JUMP CR-12 A MAX 0R01 A
3332	213810113562	RST CRB CFR-12 A 5K6 PM5 A
3333	213810113394	RST CRB CFR-12 A 390K PM5 A
3334	213810113472	RST CRB CFR-12 A 4K7 PM5 A
3335	213810113101	RST CRB CFR-12 A 100R PM5 A
3336	213810113221	RST CRB CFR-12 A 220R PM5 A
3337	213811273478	RST CRB CFR-25 A 4R7 PM5 A
3340	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3341	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3342	213810113222	RST CRB CFR-12 A 2K2 PM5 A
3345	213810113101	RST CRB CFR-12 A 100R PM5 A
3351	213810113103	RST CRB CFR-12 A 10K PM5 A
3361	213810113108	RST CRB CFR-12 A 1R PM5 A
3701	213811273479	RST CRB CFR-25 A 47R PM5 A
3710	231291512704	RST MFLM MBB0207 A 270K PM1 A
3711	213810113121	RST CRB CFR-12 A 120R PM5 A
3712	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3713	213810113121	RST CRB CFR-12 A 120R PM5 A
3714	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3715	213810113121	RST CRB CFR-12 A 120R PM5 A
3716	212211000338	RST MFLM MF1/2WS A 220R PM1 A
3719	213810113153	RST CRB CFR-12 A 15K PM5 A
3720	231291512704	RST MFLM MBB0207 A 270K PM1 A
3723	213810113153	RST CRB CFR-12 A 15K PM5 A
3727	213810113153	RST CRB CFR-12 A 15K PM5 A
3729	212010128153	RST CMP ERC12 A 15K PM10 A
3730	231291512704	RST MFLM MBB0207 A 270K PM1 A
5301	242253597608	IND FXD SPT0305 A 1U8 PM10 R
5701	242253597608	IND FXD SPT0305 A 1U8 PM10 R
5702	242253597608	IND FXD SPT0305 A 1U8 PM10 R
5704	313816872631	BEAD COIL
5705	313816872631	BEAD COIL
5706	313816872631	BEAD COIL
5707	313816872631	BEAD COIL
5711	313817874201	COIL 0.68UH PM10
5712	313817874201	COIL 0.68UH PM10
5713	313817874201	COIL 0.68UH PM10
5721	243853598058	IND FXD BEAD EMI 100MHZ 80R A
5726	313816872631	BEAD COIL
6333	933256030673	DIO SIG 1N4148 A (VISH) A
6334	933189210133	DIO SIG BAV21 A (PHSE) A
6335	933189210133	DIO SIG BAV21 A (PHSE) A
6336	933189210133	DIO SIG BAV21 A (PHSE) A
6361	933751660673	DIO REC RGP10D A (GI00) A
6712	933189210133	DIO SIG BAV21 A (PHSE) A
6713	933189210133	DIO SIG BAV21 A (PHSE) A
6714	933189210133	DIO SIG BAV21 A (PHSE) A
6721	933189210133	DIO SIG BAV21 A (PHSE) A
6722	933189210133	DIO SIG BAV21 A (PHSE) A
6723	933189210133	DIO SIG BAV21 A (PHSE) A
6726	933751660673	DIO REC RGP10D A (GI00) A
7311	935270542112	IC TDA4823PS/V1 (PHSE) L
7331	932219319682	IC NT6812K (NOVA) L
7702	932216674682	IC LM2480NA (NSC0) L

Control Panel

1053	313817863741	C/B ASSY (107T5)
3891	212211000385	RST MFLM MF1/2WS A 12K PM1 A
3892	212211000389	RST MFLM MF1/2WS A 18K PM1 A
3893	212211000401	RST MFLM MF1/2WS A 47K PM1 A
3894	231291511004	RST MFLM MBB0207 A 100K PM1 A
6891	932218424682	LED VS L-34GD (KIEL) B

PHILIPS

V30 GS4 107T5 71KHz General Specification (Sheet 590)

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FEATURES / BENEFITS

- LightFrame
 Brightness and sharpness boost on user selectable windows. User interface application for Windows 95/98/NT/2000 and MacOS 8/9. Supported languages: English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese(S), Chinese(C),
 Korean (for Windows version).

- EXTREMELY HIGH MTBF (OVER 75K HRS, EXCLUDING CRT)

- PROFESSIONAL LOOK, WITH NON-FLAMMABLE CABINET (94V-0)

- USER'S CONTROLS
 . FRONT MOUNTED CONTROLS FOR EASY ACCESS

- BETTER DISPLAY PERFORMANCE
 . FINER CRT DOT PITCH (0.25 MM)
 . FULL SCREEN SIZE APPLICATION
 . REAL MULTI-FREQ.

- POWER SAVING MANAGEMENT SYSTEM

- MAXIMIZED CONTAINER LOADING

- VESA DDC2B

- LOW EMISSION MPRII/TCO99/TCO95 (optional)

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GENERAL PRODUCT SPECIFICATION

1.0 Introduction

This document is related to the 17" AUTOSCAN (VGA above and Max. resolution 1280X1024 by 60HZ refresh) color monitor for world-wide destination.

2.0 General description

The AUTOSCAN analog color monitor is specified as a display peripheral within an IBM PC, PS/2 ,VGA and advance VGA compatible system.

The AUTOSCAN analog color monitor is to operate at horizontal line rates between 30 to 71 KHz and refreshment rate between 50 to 160 Hz, can be applied to all RGB analog computers within this scanning frequencies.

The AUTOSCAN analog color monitor is intended to be a finished product, basically a display device mounted inside a plastic enclosure which provides the aesthetic mechanical, ergonomic and safety requirements.

2.1 General condition

The unit will produce a usable image after switching-on, measurements are to be carried out with a full stabilized set after 30 minutes warm-up at room temperature of 25□ C. Repetitive power on/off cycles are allowed though should be avoided within 4 sec.

3.0 Electrical characteristics

3.1 Signal interface

The AUTOSCAN analog color display has an analog video interface to operates at a multi-frequencies timing in several display modes.

3.1.1 Input requirements

A. Input signals
Video : Analog level
Sync. : Separate sync. with TTL level
Polarity : Positive or negative

B. Signal input level
Video : 0.7 Vp-p 75 ohms (for individual of R,G and B signals must not deviate 0.015 Vp-p from each other for balance of white pattern)
Sync : TTL level
(between 0 and 0.6 V to be considered as low level, between 2.3 and 5.0 V as high level)

C. Impedance
Video : Terminated with 75 ohms
Sync : Terminated with 4.7K ohms pull down resistors.

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3.1.2 Signals input

The input video signals are applied to the display device through a video cable which is fixed to the monitor (standard cable length 1.45M).

Video input cable :
15 pin D-shell male connector type AMP 211350-1(3 rows) or equivalent, with pin assignment as follows :

Pin assignment of 15P D-SUB connector

Pin nbr.	Assignment
P1	Red video input
P2	Green video input
P3	Blue video input
P4	GND
P5	For selftest (PC Ground)
P6	Red video ground
P7	Green video ground
P8	Blue video ground
P9	Not connected -- No pin
P10	Sync ground
P11	GND
P12	Bi-directional Data (SDA)
P13	H SYNC
P14	V SYNC (VCLK)
P15	Data clock (SCL)

3.1.3 Factory preset modes:

Factory preset modes : 8

	Resolution	H. freq.	V. freq.	H.	V.
1.	720 x 400	31.5 KHz	70Hz (VGA)	-	+
2.	640 x 480	31.47 KHz	60Hz (VGA)	-	-
3.	640 x 480	43.3 KHz	85Hz (VESA)	-	-
4.	800 x 600	46.9 KHz	75Hz (VESA)	+	+
5.	800 x 600	53.67 KHz	85Hz (VESA)	+	+
6.	1024 x 768	60.0 KHz	75Hz (VESA)	+	+
7.	1024 x 768	68.7 KHz	85Hz (VESA)	+	+
8.	1280 x 1024	64.0 KHz	60Hz (VESA)	+	+

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Factory preload modes : 14

	Resolution	H. freq.	V. freq.
9.	640 x 350	31.5 KHz	70 Hz
10.	640 x 350	37.9 KHz	85 Hz
11.	640 x 480	37.5 KHz	75 Hz
12.	640 x 480	37.9 KHz	72.8Hz
13	640 x 480	50.6 KHz	100 Hz
14.	720 x 400	37.9 KHz	85 Hz
15.	800 x 600	37.9 KHz	60 Hz
16.	800 x 600	48.1 KHz	72 Hz
17.	800 x 600	63.9 KHz	100 Hz
18.	832 x 624	49.7 KHz	75 Hz
19.	1024 x 468	48.4 KHz	60 Hz
20.	1024 x 768	56.5 KHz	70 Hz
21.	1152 x 864	67.5 KHz	75 Hz
22.	1280 x 960	60 KHz	60 Hz

3.2 Timing requirements

The AUTOSCAN color monitor must be capable of displaying standard resolutions within the vertical(refresh) frequency range of 50 to 160 Hz and horizontal scan range of 30 □ 71 KHz.

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PHILIPS

TIMING FOR V30 GS4 107T5 71K COLOR MONITOR

REFERENCE PATTERN GENERATOR : CHROMA 2135

* According VESA version 1.0 release 0.6p

Factory preset modes

TABLE 1: 31.469 KHz/70.087 Hz, 720 X 400, pixel=28.325 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.774 us	Total size	= 14.268 ms
Display size	= 25.422 us	Display size	= 12.711 ms
Rear porch	= 1.907 us	Rear porch	= 1.112 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= -	Sync polarity	= +

TABLE 2: 31.469KHz/59.940 Hz, 640 X 480, pixel=25.175 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.778 us	Total size	= 16.683 ms
Display size	= 25.422 us	Display size	= 15.253 ms
Rear porch	= 1.907 us	Rear porch	= 1.049 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= -	Sync polarity	= -

TABLE 3: 43.269KHz/85.008 Hz, 640 X 480, pixel=36.000 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 23.111 us	Total size	= 11.764 ms
Display size	= 17.778 us	Display size	= 11.093 ms
Rear porch	= 2.222 us	Rear porch	= 0.578 ms
Sync width	= 1.556 us	Sync width	= 0.069 ms
Sync polarity	= -	Sync polarity	= -

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TABLE 4: 46.875 KHz/75 Hz, 800 X 600, pixel=49.500 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	21.333 us	Total size	=	13.333 ms
Display size	=	16.162 us	Display size	=	12.800 ms
Rear porch	=	3.232 us	Rear porch	=	0.448 ms
Sync width	=	1.616 us	Sync width	=	0.064 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 5: 53.674 KHz/85.061 Hz, 800 X 600, pixel=56.250 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	18.631 us	Total size	=	11.756 ms
Display size	=	14.222 us	Display size	=	11.179 ms
Rear porch	=	2.702 us	Rear porch	=	0.503 ms
Sync width	=	1.138 us	Sync width	=	0.056 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 6: 60.03 KHz/75 Hz, 1024 X 768, pixel=78.750 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	16.660 us	Total size	=	13.328 ms
Display size	=	13.003 us	Display size	=	12.795 ms
Rear porch	=	2.235 us	Rear porch	=	0.466 ms
Sync width	=	1.219 us	Sync width	=	0.050 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 7: 63.981 KHz/60 Hz, 1280 X 1024, pixel=108 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	15.630 us	Total size	=	16.661 ms
Display size	=	11.852 us	Display size	=	16.005 ms
Rear porch	=	2.296 us	Rear porch	=	0.594 ms
Sync width	=	1.037 us	Sync width	=	0.047 ms
Sync polarity	=	+	Sync polarity	=	+

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TABLE 8: 68.677 KHz/85 Hz, 1024 X 768, pixel=94.500 MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 14.561 us	Total size	= 11.765 ms
Display size	= 10.836 us	Display size	= 11.183 ms
Rear porch	= 2.201 us	Rear porch	= 0.524 ms
Sync width	= 1.016 us	Sync width	= 0.044 ms
Sync polarity	= +	Sync polarity	= +

Factory preload modes

TABLE 9: 31.469KHz/70.087 Hz, 640 X 350, pixel=25.175MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 31.778 us	Total size	= 14.268 ms
Display size	= 25.422 us	Display size	= 11.122 ms
Rear porch	= 1.907 us	Rear porch	= 1.907 ms
Sync width	= 3.813 us	Sync width	= 0.064 ms
Sync polarity	= +	Sync polarity	= -

TABLE 10: 37.861KHz/85.08 Hz, 640 X 350, pixel=31.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.413 us	Total size	= 11.754 ms
Display size	= 20.317 us	Display size	= 9.244 ms
Rear porch	= 3.048 us	Rear porch	= 1.585 ms
Sync width	= 2.032 us	Sync width	= 0.079 ms
Sync polarity	= +	Sync polarity	= -

TABLE 11: 37.5KHz/75 Hz, 640 X 480, pixel=31.5MHz

Horizontal		Vertical	
Frame border	= 0	Frame border	= 0
Total size	= 26.667 us	Total size	= 13.333 ms
Display size	= 20.317 us	Display size	= 12.8 ms
Rear porch	= 3.810 us	Rear porch	= 0.427 ms
Sync width	= 2.032 us	Sync width	= 0.08 ms
Sync polarity	= -	Sync polarity	= -

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TABLE 12: 37.861KHz/72.809 Hz, 640 X 480, pixel=31.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.413 us	Total size	=	13.735 ms
Display size	=	20.317 us	Display size	=	12.678 ms
Rear porch	=	4.064 us	Rear porch	=	0.739 ms
Sync width	=	1.270 us	Sync width	=	0.079 ms
Sync polarity	=	-	Sync polarity	=	-

TABLE 13: 50.625 KHz/100.049 Hz, 640 X 480, pixel=40.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	19.752 us	Total size	=	9.995 ms
Display size	=	15.802 us	Display size	=	9.481 ms
Rear porch	=	1.975 us	Rear porch	=	0.435 ms
Sync width	=	1.580 us	Sync width	=	0.059 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 14: 37.927 KHz/85.039 Hz, 720 X 400, pixel=35.5 MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.366 us	Total size	=	11.759 ms
Display size	=	20.282 us	Display size	=	10.546 ms
Rear porch	=	3.042 us	Rear porch	=	1.107 ms
Sync width	=	2.028 us	Sync width	=	0.079 ms
Sync. polarity	=	-	Sync. polarity	=	+

TABLE 15: 37.879 KHz/60.317 Hz, 800 X 600, pixel=40MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	26.400 us	Total size	=	16.579 ms
Display size	=	20.000 us	Display size	=	15.840 ms
Rear porch	=	2.200 us	Rear porch	=	0.607 ms
Sync width	=	3.200 us	Sync width	=	0.106 ms
Sync. polarity	=	+	Sync. polarity	=	+

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TABLE 16: 48.077 KHz/72.188 Hz, 800 X 600, pixel=50MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.800 us	Total size	=	13.853 ms
Display size	=	16.000 us	Display size	=	12.480 ms
Rear porch	=	1.280 us	Rear porch	=	0.478 ms
Sync width	=	2.400 us	Sync width	=	0.125 ms
Sync. polarity	=	+	Sync. polarity	=	+

TABLE 17: 63.92KHz/100 Hz, 800 X 600, pixel=67.5MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	15.644 us	Total size	=	9.997 ms
Display size	=	11.852 us	Display size	=	9.387 ms
Rear porch	=	2.370 us	Rear porch	=	0.548 ms
Sync width	=	0.948 us	Sync width	=	0.047 ms
Sync. polarity	=	+	Sync. polarity	=	+

TABLE 18: 49.714KHz/74.534 Hz, 832 X 624, pixel=57.27MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.115 us	Total size	=	13.417 ms
Display size	=	14.528 us	Display size	=	12.552 ms
Rear porch	=	3.911 us	Rear porch	=	0.784 ms
Sync width	=	1.118 us	Sync width	=	0.060 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 19: 48.363 KHz/60.004 Hz, 1024 X 768, pixel=65MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	20.677 us	Total size	=	16.666 ms
Display size	=	15.754 us	Display size	=	15.880 ms
Rear porch	=	2.462 us	Rear porch	=	0.600 ms
Sync width	=	2.092 us	Sync width	=	0.124 ms
Sync. polarity	=	-	Sync. polarity	=	-

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TABLE 20: 56.476KHz/70.069 Hz, 1024 X 768, pixel=75MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	17.707 us	Total size	=	14.272 ms
Display size	=	13.653 us	Display size	=	13.599 ms
Rear porch	=	1.920 us	Rear porch	=	0.513 ms
Sync width	=	1.813 us	Sync width	=	0.106 ms
Sync. polarity	=	-	Sync. polarity	=	-

TABLE 21: 67.5 KHz/75Hz, 1152 X 864, pixel=108MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	14.815 us	Total size	=	13.333 ms
Display size	=	10.667 us	Display size	=	12.8 ms
Rear porch	=	2.370 us	Rear porch	=	0.474 ms
Sync width	=	1.185 us	Sync width	=	0.044 ms
Sync polarity	=	+	Sync polarity	=	+

TABLE 22: 60.0 KHz/60 Hz, 1280 X 960, pixel= 108MHz

Horizontal			Vertical		
Frame border	=	0	Frame border	=	0
Total size	=	16,667 us	Total size	=	16.667 ms
Display size	=	11.852 us	Display size	=	16.000 ms
Rear porch	=	2.889 us	Rear porch	=	0.600 ms
Sync width	=	1.037 us	Sync width	=	0.050 ms
Sync polarity	=	+	Sync polarity	=	+

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3.2.1 Horizontal scanning

Scanning frequency : 30 - 71 KHz
H-shift range : ± 10 mm Min. (for preset modes only)

3.2.2 Vertical scanning

Scanning frequency : 50 - 160 Hz
V-shift range : ± 10 mm min. (for preset modes only)

3.3 Power supply

The display device maintains the specified performance in the range described as below :

Type	Mains current	Mains Voltage	Mains freq.
230V version	1.5A Max.	90 - 264 VAC	60 +/- 3 Hz

Power consumption : 75 Watts Max.
Power cord length : 1.5M
Power cord type : 3 lead plug power cord
with protective earth plug or IBM hooded

3.4 Power saving management system

	Signal			Compliance Requirement	Power
	H-Sync	V-Sync	Video		
On	Active	Active	Active	Mandatory	<= 75w
Off	Inactive	Active	Blanked	Mandatory	<= 2 w
Off	Active	Inactive	Blanked	Mandatory	<= 2 w
Off	Inactive	Inactive	Blanked	Mandatory	<= 2 w

3.5 CRT Description

This display unit employs a high resolution CRT complying with the following specifications :

Dimensions : 17 inches flat/square screen
Pitch : 0.25mm dotted with black matrix
Deflection angle : 90 degrees
Light transmission : 50%(CPT), 52.8%(LG), 52.6%(SDI)
Face treatment : AGARAS
Implosion protection : By P-Mini-rim-band.
EHT : 25.0 ± 1 KV (Ib=0)
Visible screen area : 325.1 mm x 243.8 mm
CRT Source : CPT, LG, SDI

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3.6 RGB Amplifier

3.6.1 Video amplifiers

Dot Rate	: 108 MHz
Over / undershoot	: 15% Max. (Transient response)
Sag	: 5% Max. (pulses of 0.70H)
Black level shift	: 5% Max.

3.6.2 Brightness and Contrast
Reference mode 68.7 KHZ/85 HZ full white pattern.

DISPLAY LIGHT OUTPUT

Brightness	Contrast	Light output (full white)
Minimum	Minimum	not visible
Center	Maximum	30 ± 5 FL.

100mmx100mm block
Brightness at center and contrast at maximum light output is 41+/-6 FL.

sRGB : When sRGB mode is selected, the light output (Full white pattern) shall be 23 +/- 3FL regardless of main contrast and brightness controls. Adjusting contrast or brightness will auto exit sRGB mode and go to 6500K mode.

3.6.3 Raster light output
Apply 68.7KHz/85Hz mode with no video pattern, set brightness at center(50%) and contrast control at minimum(0%).
The light output on the screen center should be < 0.2FL.

3.7 Variation of image size (For preset modes only)

Due to brightness change : ≤ 1.0 %

Long term (Static) : <1.50mm on left/right side
(See Fig.7) <1.20mm on top/bottom side

Due to aging
(25° C, 300 hrs) : ≤ 1.0 %

Due to mains voltage
variation (± 10%) : ≤ 1.0 %

3.8 Degaussing
An automatic degaussing circuit is provided which requires no intervention.
The degaussing shall be activated and work effectively at the time of switch-on or switch-on again or pressing the manual degaussing key after the degaussing circuit has been switched off for longer than 30 minutes
(The PTC should be completely cooled off).

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3.9 Phosphor protection

The display device is sufficiently protected against the burning of phosphors in case of repetitive power cycling or absence of horizontal deflection.

3.10 Low emission requirements (MPRII/TCO99/TCO95)

Items	Band I ELF (rms)	Band II VLF (rms)
Alternating Electric Field	MPRII < 25 V/M TCO < 10 V/M	MPRII < 2.5 V/M TCO < 1.0 V/M
Magnetic Field	MPRII < 250 nT TCO< 200 nT	MPRII < 25 nT TCO < 25 nT
Electrostatic Potential	< +/- 500 V	

Band I : 5 to 2K HZ.
Band II : 2K to 400K HZ.
Test procedure according to low emission and E.S.P. test method.

3.11 Display data channel : DDC2B (VESA STANDARD)

The DDC HEX Data (refer sheet 190) should be written into the DDC IC (24LC21 or equivalent)

4.0 Display image (CRT facing east)

The monitor is aligned in a magnetic cage having the following magnetic field components :
Northern Hemisphere : H = 0, V = 450 mG, Z = 0
Southern Hemisphere : H = 0, V = -500 mG, Z = 0
Equatorial : H = 0, V = 0 mG, Z = 0

Conditions for visual testing, unless otherwise stated:
Input video signal - 700 mVpp cross hatch
Brightness control - center(50%)
Contrast control - maximum(100%)

4.1 Display resolutions

See 3.1.3

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4.2 Image size (For preset modes only)

The dimensions of guaranteed display area to be measured along the picture center of horizontal and vertical axis of the screen as listed below: (preset modes only, refer to fig. 1)

Width : 306 ± 3 mm
Height : 230 ± 3 mm

4.3 Image centering deviation (For preset modes only)
With respect to fig. 2, the target relationships are the following :

|A- B| ≤ 5 mm |C- D| ≤ 5 mm

Note : This centering is adjustable by the end-user.

4.4 Picture shift control range (For preset modes only)

H-shift range : ± 10 mm min.
V-shift range : ± 10 mm min.

4.5 Picture tilt
With respect to Fig. 3, Tilt to be measured on extremes of center line from bezel.

|A- B| : ≤ 2 mm

4.6 Geometrical distortions (For preset modes only)

It is acceptable that pincushion, trapezoid, rhomboid, rotation and various waves distortions must remain within the limits of tolerance as in Fig. 4,
where A = B = 2.0 mm.
C = D = 2.0 mm.
The waviness of any vertical or horizontal shall be less than 1.0 mm over a 50 mm distance.

4.7 Image non-linearity (For preset modes only)
Apply cross-hatch pattern with
12 equal blocks along horizontal axis,
9 equal blocks along vertical axis. (see Fig. 1)

Overall : ≤ 10 %
Adjacent : ≤ 6 % (For 64kHz mode H ≤ 8 %)

$$\text{H. non-linearity} = \frac{\text{X. max.} - \text{X. min.}}{\text{X. Max.}} \times 100\%$$

$$\text{V. non-linearity} = \frac{\text{Y. max.} - \text{Y. min.}}{\text{Y. Max.}} \times 100\%$$

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4.8 Mis-convergence

The maximum convergence error to be measured on a white spot or white display line to represents the maximum distance between the energy centers of any two primary colors (See Fig. 6). For 31.5kHz modes B Zone : 0.4mm.

CONVERGENCE SPEC.

Zones	0.25 mm CRT
Zone C	0.15 mm
Zone A	0.25 mm
Zone B	0.35 mm

4.9 Focus check (68.7 KHZ / 85 HZ)

Adjust brightness control to center(50%) and contrast control to get 25 FL at full white pattern, then generate □me□ characters to cover the entire picture. The characters should be clearly identified in all display area. (See Fig. 8)

4.10 Luminance uniformity

condition : With full white pattern, set contrast control at maximum(100%) and brightness control at center(50%).
Brightness of the center of the display is 30 FL+/-5.

The Max. deviation over the screen should not exceed 25% .

4.11 White color adjustment

Based on the 1931 CIE chromatic diagram (x,y) coordinates of white display on screen center should be:

For 9300□ K X = 0.283 ± 0.015
Y = 0.297 ± 0.015
For 6500□ K X = 0.313 ± 0.015
Y = 0.329 ± 0.015
For sRGB X = 0.313 ± 0.015
Y = 0.329 ± 0.015

Check conditions : Set brightness control at center(50%) and contrast at maximum(100%).
For sRGB mode sRGB contrast is at Factory value.

4.12 Color tracking on full white pattern

Adjust for the luminance output from 3 to 30 FL by pressing the contrast control key (brightness control at 50%). The color co-ordinates should not deviate more than the following tolerance when compare to display center:
X= X (center) ± 0.015
Y= Y (center) ± 0.015

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4.13 Purity

Test patterns : Full white / Red / Green / Blue.

Conditions : As stated in item 4.0, the purity must be checked under specific destinations of earth magnetic environments and the monitor must be well degaussed.

After warming-up time of 30 min. , no color stains may occur in the above four patterns.

4.14 Moir□

Condition: Display a full white pattern. At any preset mode , the display size must be set as Fig.1.

The clouding effect must not rise to disturbing levels in anywhere of the screen with luminance setting from 15 to 30 FL.

4.15 Blemish

Blemish shall be in accordance with CRT specification.

5.0 Mechanical characteristics

5.1 User controls

- Power ON/OFF key
- LightFrame key
- 3 Key digital user control (OSD)

5.2 Connectors and cables

5.2.1 Power cord type : 3 leads plugable power cord with protective earthed plug or IBM Hooded

Length : 1.5 m ± 50 mm (excluding connector)

Safety requirements : See following.

Countries	Approval		
	Mains plug	Wire	Connector
Germany	VDE	VDE	VDE
Switzerland	--	SVE	SVE
Belgium	CEBEC	--	--
Sweden	SEMKO	SEMKO	SEMKO
Finland	EI	--	EI
Norway	NEMKO	NEMKO	--
Denmark	DEMKO	DEMKO	DEMKO
Italy	OVE	--	OVE
Netherlands	KEMA	KEMA	KEMA
U.K.	ASTA	HAR	ASTA
U.S.A.	UL	UL	UL
Canada	CSA	CSA	CSA
Australia	SAA	SAA	SAA

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5.2.2 Signal cable

Length of video : 1.45 m ± 50 mm flying with 15 pin PS/2 D-shell socket

5.3 Tilt and swivel base

Tilt angle : 5□ forward and 13° backward

Swivel rotation : 90□ leftward or rightward

6.0 Environmental characteristics

The following sections to define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

6.1.1 (A) Operating limits

Temperature : 0□C to 40□C

Humidity : 10 to 90% (W/O condensation)

Air pressure : 700 ~ 1100 mbar

(B) Non-operating limits (storage)

Temperature : -25□C to 65□C

Humidity : 5 to 95 % (W/O condensation)

Altitude : 300 to 1100 mbar

6.1.2 Transportation packages

A) Carton box

A-1 Size (with pedestal)

496(W)×416(H)×556(D)

A-2 Carton paper : double wall AB flute corrugate board, color brown

Bursting : 19.3 kgf/cm^2 min

Compression : 600 kgf min

B) Transportation conditions

B-1 Container loading (separated pedestal)

Q□ty	Container size				
	40□		20□		40□High Cube
	W/ Pallet		W/ Pallet		W/ Pallet
	Yes	No	Yes	No	No
Layers	5	5	5	5	6
Sets / Layer	4	4	4	4	4
Sets / Block	20	20	20	20	24
Blocks / Container	24	24	10	10	24
Total Sets	480	480	200	200	576

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B-2 Transportation standards

Standards		EU / Asia versions PHILIPS's UN-D1400	U.S.A. version NSTA
Drop test	Height	61 cm	61 cm
	Sequence	-10°C for 16 hours, 1 corner, 3 faces Right/Back/Top faces Left/Front/Bottom faces (only for reference)	1 corner 3 edges 6 faces
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set.	
Vibration test	Sequence	a . 5~200Hz. 0.25G operating random vibration 30 min/axis, 3 axes b. 5~200Hz. 0.73 packing random - vibration 30 min/axis, 3 axes	
	Result	- Electrical function OK. - Mechanical function OK. - No serious damage in set.	
Shock test		For design evaluation only. Half sine shock : 100G, <3m sec. 6 shocks Temp. : 23□C Humidity : 60 % Air pressure : 100 kpa Standard : Mechanical Guideline	

6.2 Display disturbances from external environment

6.2.1 ESD Disturbances

According to EN55024 (also refer to EN61000-4-2 for detail).

6.3 Display disturbances to external environment

The disturbances induced by the display and tolerated by the environment are defined as follows :

6.3.1 Ionizetic radiation

Completely fulfill International Commission of Radio logical Protection (ICRP) requirement 0.5 mR/Hr.

Actually the set can reach 0.1 mR/Hr.

6.3.2 EMI/EMS

Can comply with FCC part 15,DOC C108.8 and EN55022 B Emission.

EN55024 Immunity; EN61000-3-2 Current Harmonics; EN61000-3-3 Flicker.

EMS EN61000-4-3 (80% 1KHz AM modulation) Picture jitter ≤ 2mm.

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7.0 Safety tests

7.1 Dielectric strength (Hi-pot test)
According to IEC 60950, UL 1950 and CSA 22.2 No. 950

7.2 Resistance for protective earthing
According to IEC 60950

7.3 Leakage current
According to IEC 60950, UL 1950 and CSA22.2 No. 950

7.4 Grounding
According to IEC 60950, UL 1950 and CSA22.2 No. 950

8.0 Certifications

8.1 Safety
The monitors comply with the following safety standards:

- IEC 60950
- UL 1950
- DHHS 21 CFR, subchapter J
- CSA-22.2 NO. 950
- EK1-ITB 2000

8.2 EMI (Electromagnetic Interference)
The monitor comply with the following EMI standards :

- EN55022 B Emission
- FCC Part 15
- DOC C108.8

8.3 Fulfil approbation requirements
Destination basis, set can fulfil following requirements:

Countries	Safety	EMI
Germany	TUV, GS	CE
Sweden	SEMKO	----
Norway	NEMKO	----
Denmark	DEMKO	----
Finland	FIMKO	----
U.S.A.	UL, DHHS	FCC
Canada	CSA	DOC
Taiwan	----	BSM1

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GENERAL PRODUCT SPECIFICATION

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9.0 Reliability

9.1 Mean time between failures
MTBF to be calculated according to Military standard
MIL-HDBK-217C.

MTBF ≥ 75,000 Hours (Excluding CRT)

$$\text{PRACTICE of MTBF} = \frac{\text{TOTAL HRS (POWER ON) X TOTAL SETS}}{\text{NBR. OF FAILURE SETS}}$$

10.0 Quality assurance requirements

10.1 Acceptance test

According to MIL-STD-105D level II,
AQL : 0.4 (Major)
: 1.0 (Minor)

Customer acceptance : UAW 0377/40
criteria

11.0 Service ability

The service ability of this monitor should fulfil the requirements which are prescribed in UAW-0346 and must be checked with the check list UAT - 0361

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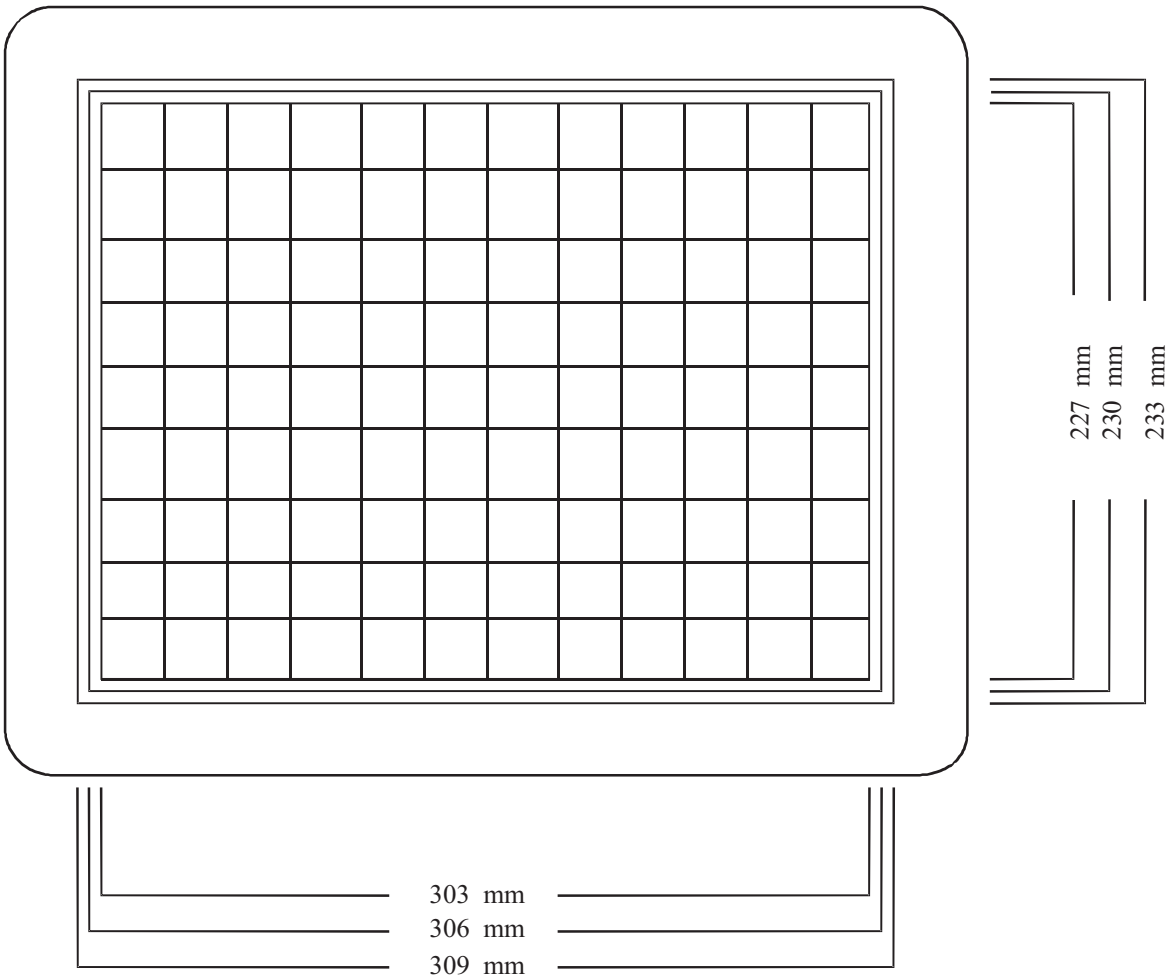
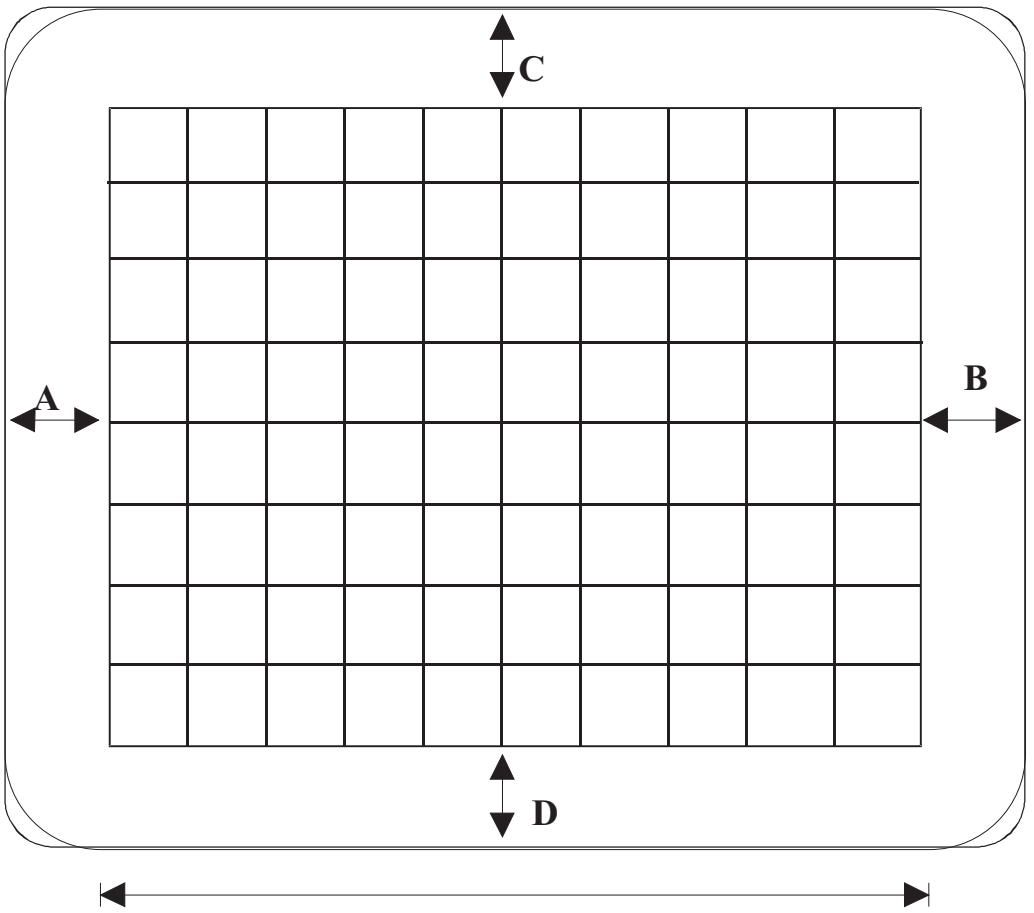


FIG-1 IMAGE DIMENSION

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CLASS NO.	17" V30 GS4 107T5-71K CMTR								
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS								
NAME Wayne Lin	SUPERS.	30	590 — 23	10		A4			
TY / CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.							

PHILIPS



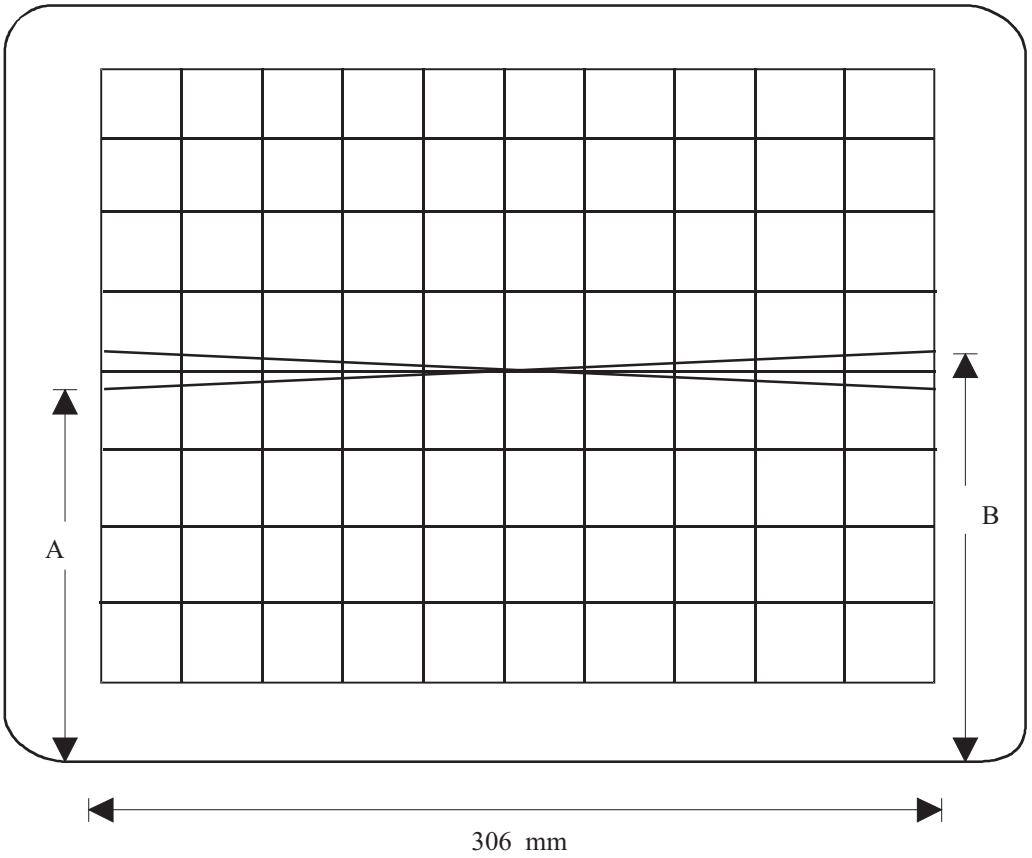
|A-B| AND |C-D| < 5 mm

FIG-2 IMAGE CENTERING

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CLASS NO.	17" V30 GS4 107T5-71K CMTR								
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS								
NAME Wayne Lin	SUPERS.	30	590 — 24	10		A4			
TY CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.							

PHILIPS



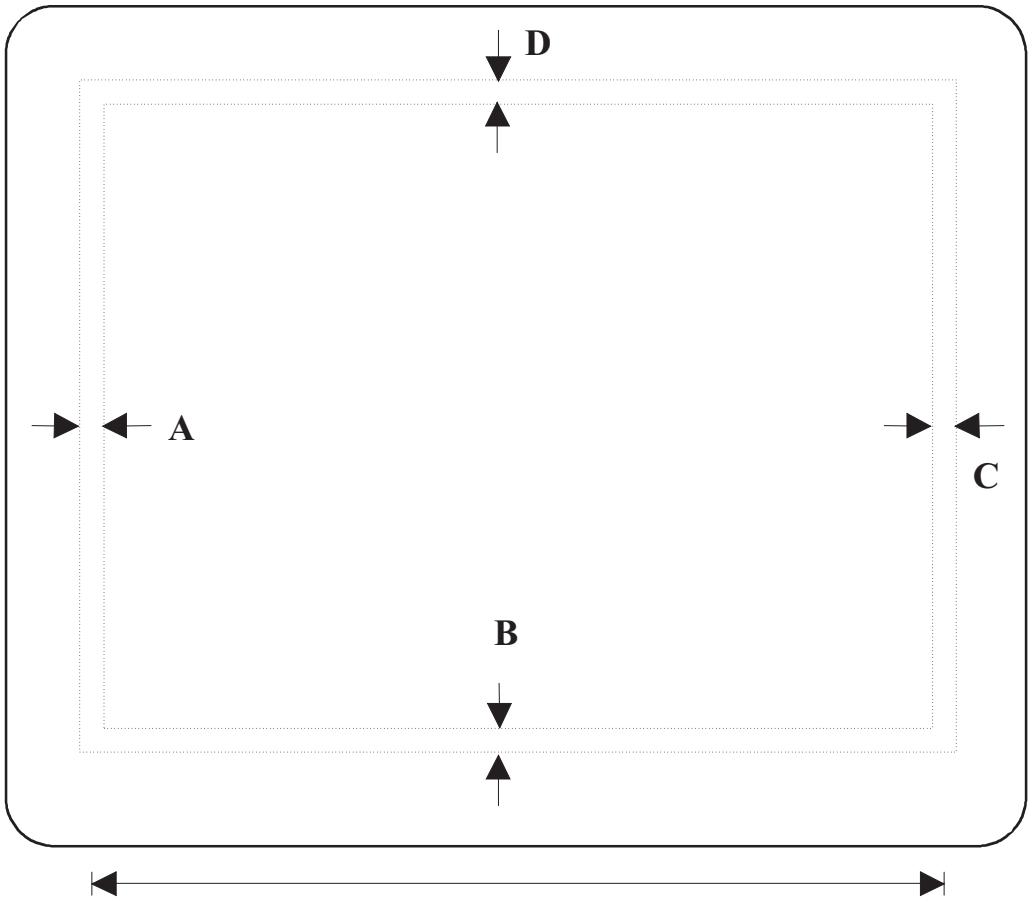
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$$|A-B| \leq 2 \text{ mm}$$

FIG-3 IMAGE ROTATION

CLASS NO.	17" V30 GS4 107T5-71K CMTR									
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS									
NAME Wayne Lin	SUPERS.		30	590	—	25	10		A4	
TY / CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.								

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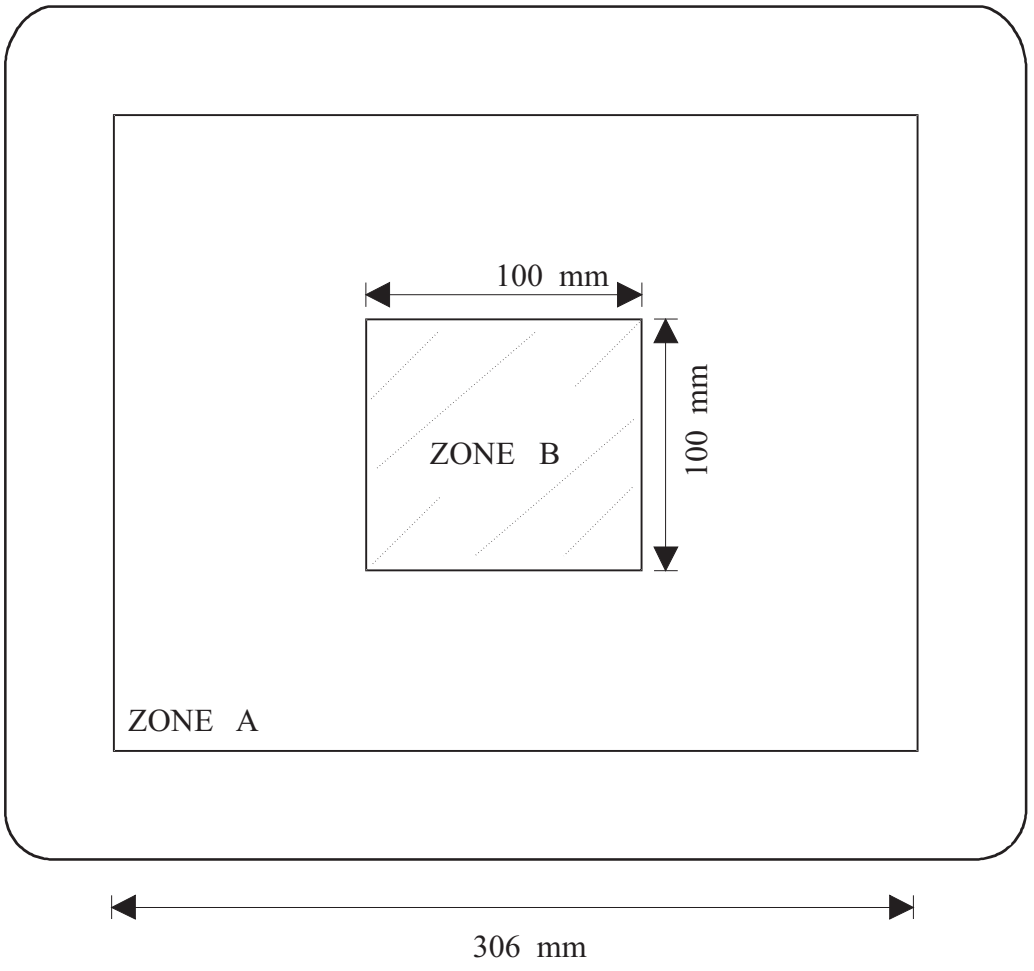
A=B=C=D ≤ 2.0 mm

FIG-4 IMAGE GEOMETRY

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CLASS NO.	17" V30 GS4 107T5-71K CMTR									
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS									
NAME Wayne Lin	SUPERS.	30	590 — 26	10		A4				
TY	CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.							

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FIG-5 CONTRAST AND BRIGHTNESS MEASUREMENT AREA

CLASS NO.	17" V30 GS4 107T5-71K CMTR								
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS								
NAME Wayne Lin	SUPERS.	30	590 — 27	10		A4			
TY / CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.							

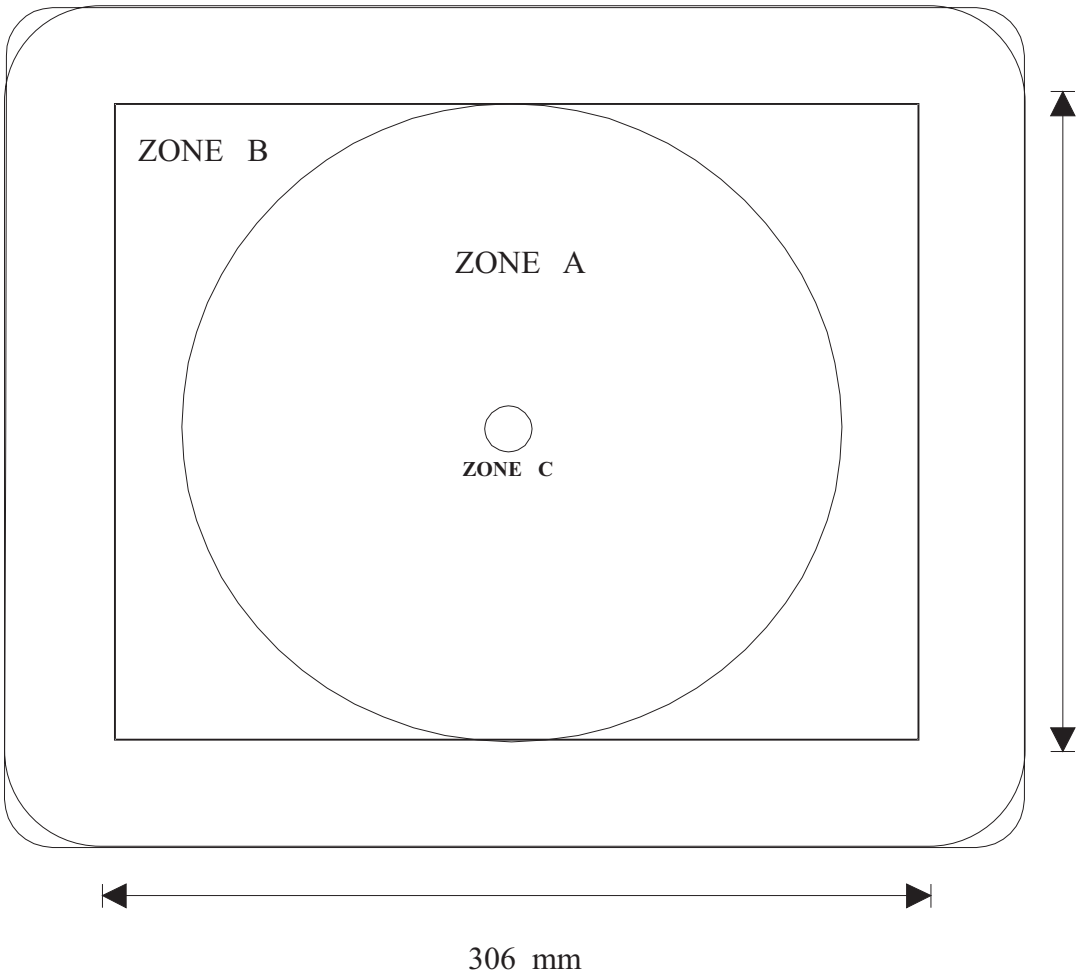
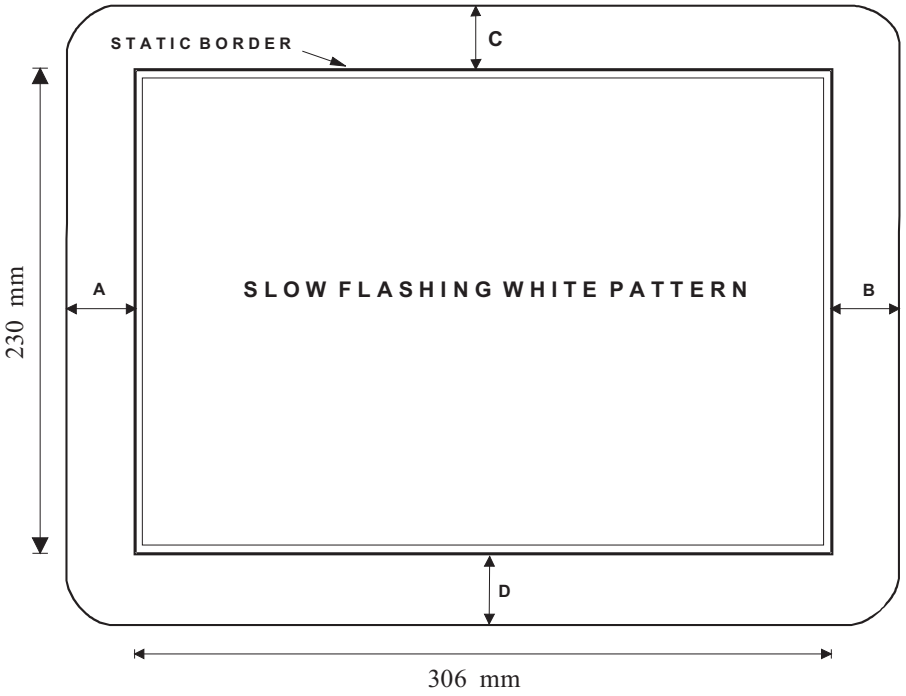


FIG-6 MISCONVERGENCE

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CLASS NO.	17" V30 GS4 107T5-71K CMTR										
2003-01-07	TYPE : 107T51/00 BRAND : PHILIPS										
NAME Wayne Lin	SUPERS.	30	590	—	28	10		A4			
TY	CHECK	DATE 2003-01-07	Property of PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.-C.E.								

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ΔA < 1.50 mm
ΔB < 1.50 mm

ΔC < 1.20 mm
ΔD < 1.20 mm

(Δ measured between
flash on / off)

Figure 7

Static EHT regulation distortion pattern

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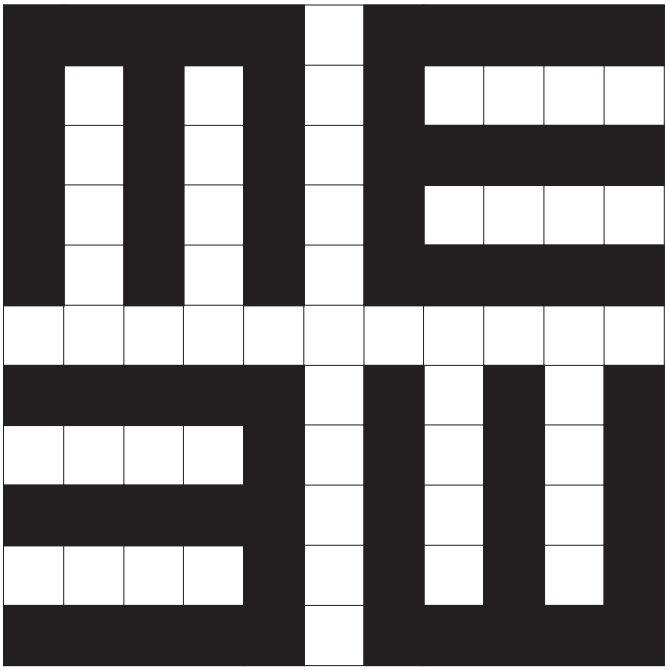


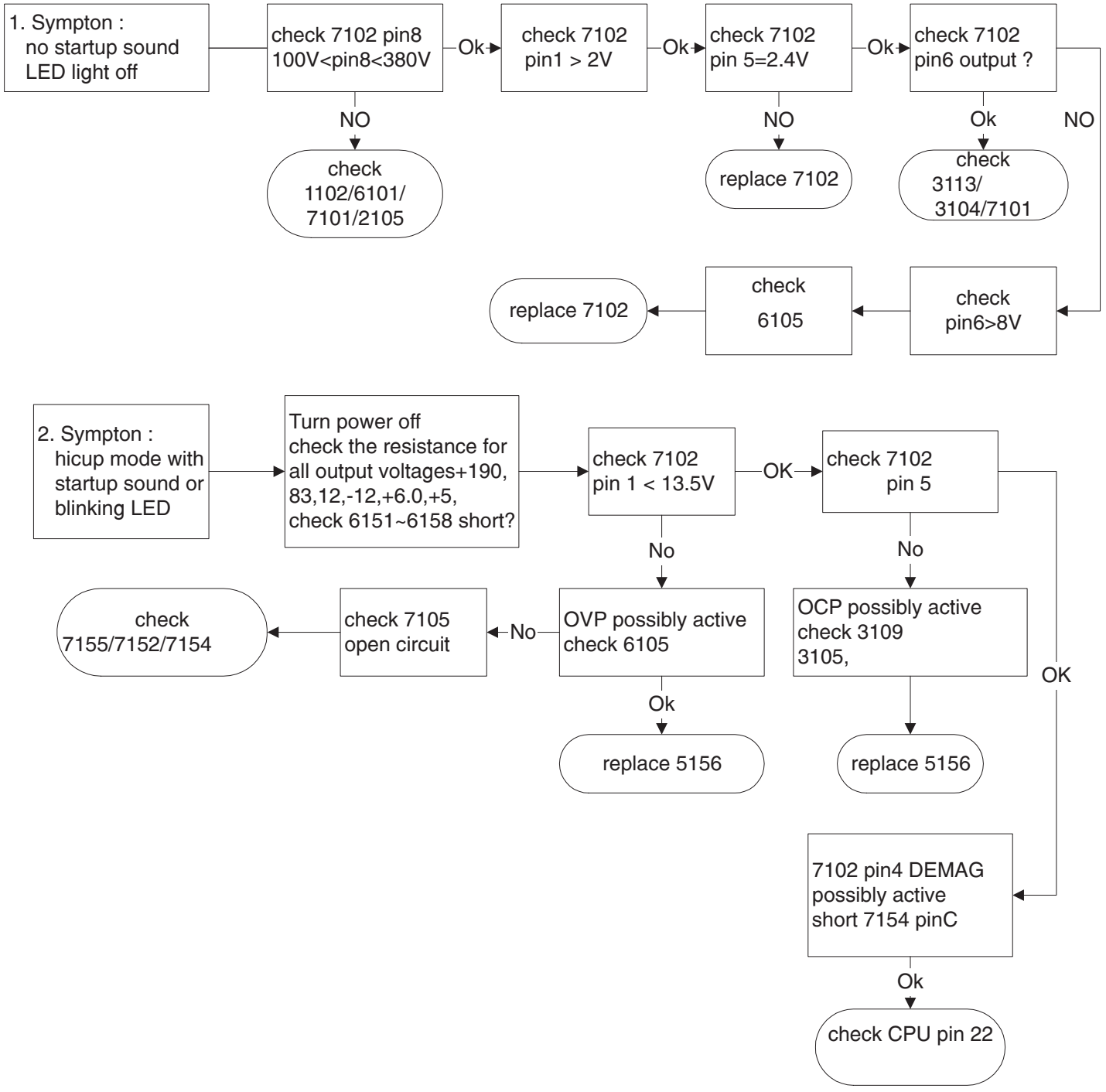
Figure 8

Focus check character

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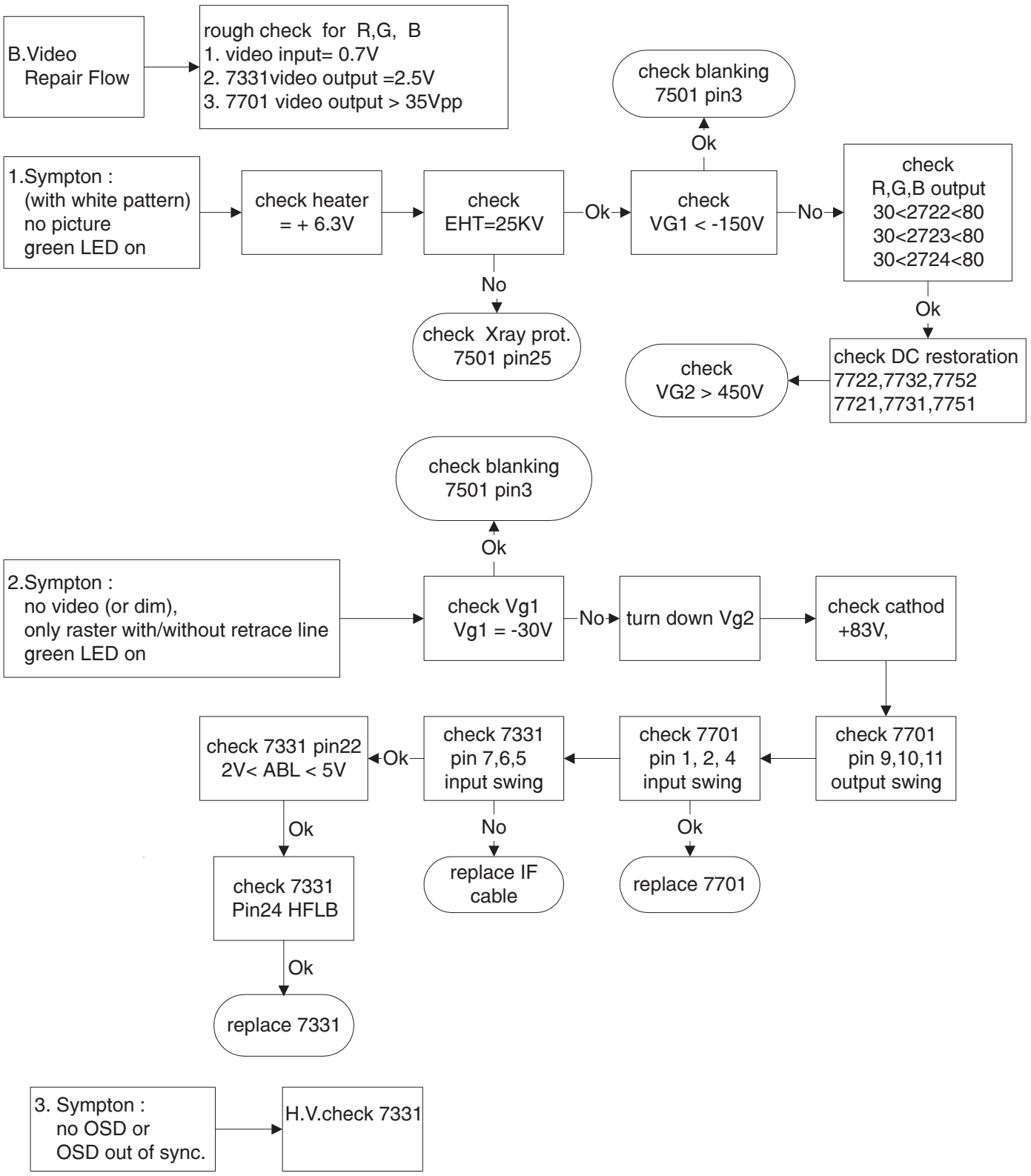
Repair Flow Chart

A. Power Supply Failure



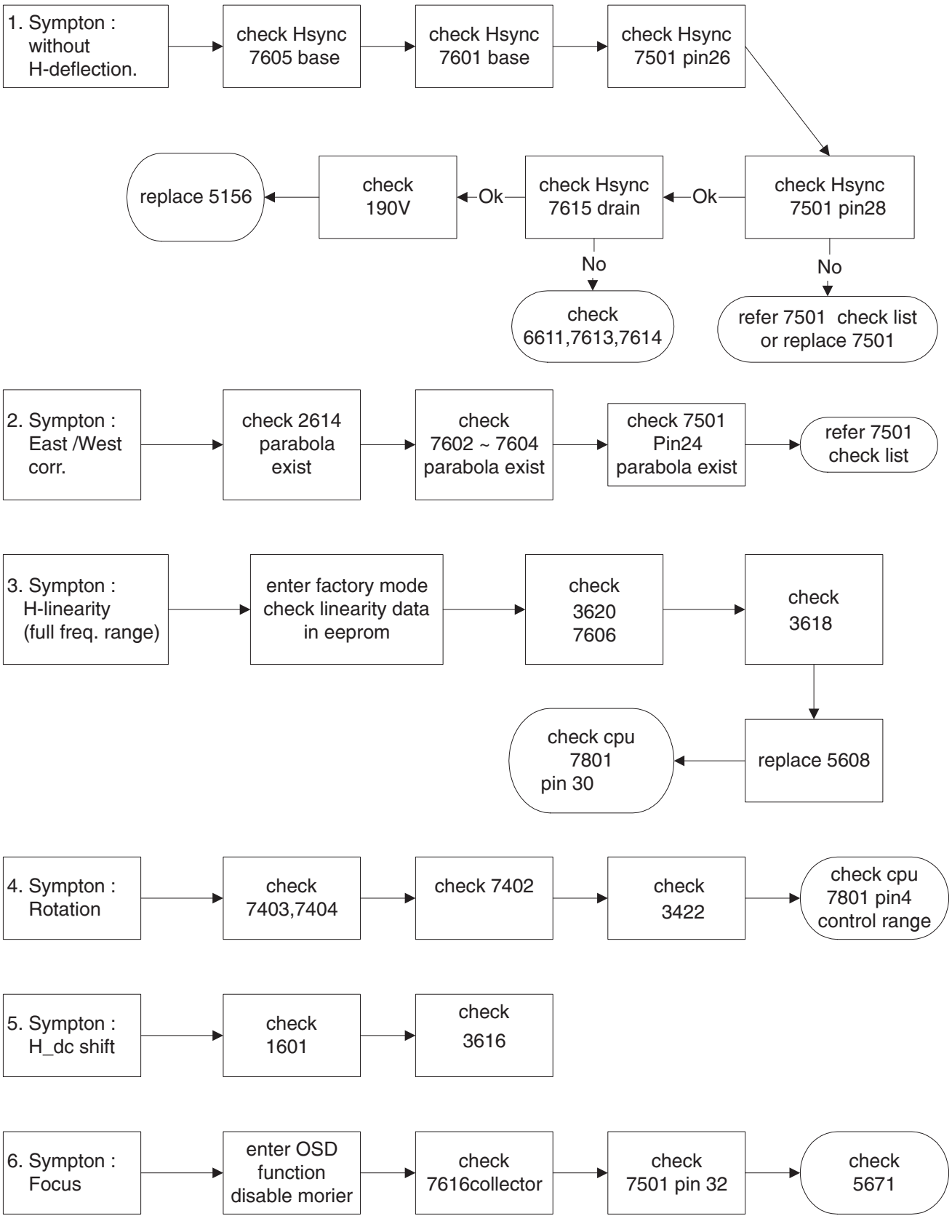
Repair Flow Chart (Continued)

Go to cover page



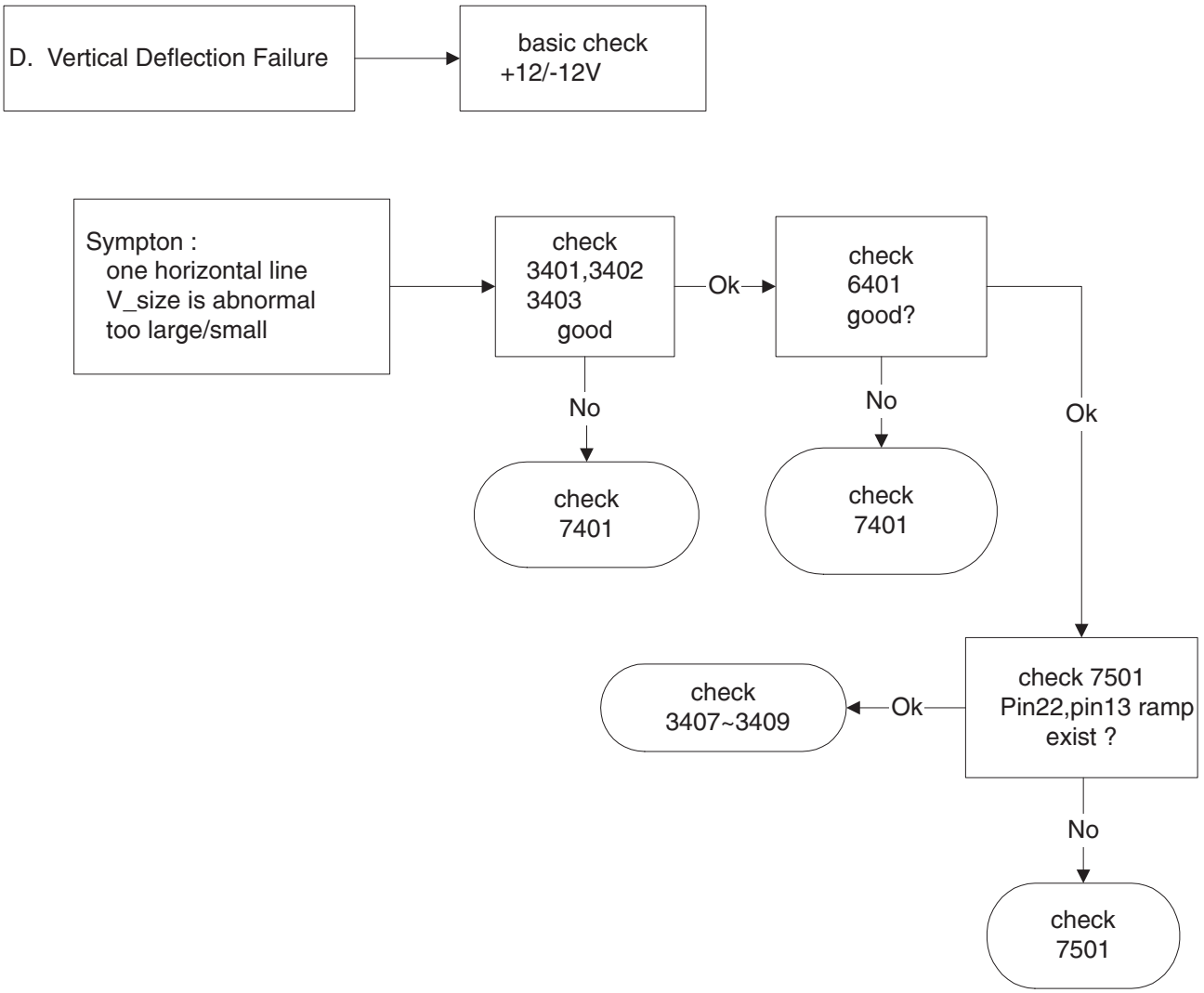
Repair Flow Chart (Continued)

C. Horizontal deflection output repair flow :



Repair Flow Chart (Continued)

Go to cover page



Repair Flow Chart (Continued)

E. CPU check list → Basic Check → check cpu pin6= 5V
pin9/pin8=12MhZ
pin7=gnd

31. H-EHT → H size compensation for the load variance

107T5 71K S-CAPACITOR SWITCH TABLE

Hor. Freq.(KHz)	Q1	Q2	Q3
< 27.00	0	0	0
27.50-33.00	0	0	0
33.00-36.00	0	1	0
36.00-40.00	0	1	1
40.00-45.00	1	0	0
45.00-52.00	1	0	0
52.00-55.00	1	0	1
55.00-60.50	1	1	0
60.50-66.00	1	1	0
> 66.00	1	1	1
Free run 48K	0	0	0

10,11, (Q2,Q1) S-cap switch → check Q1-Q2
Pin 35~28
low : 0
hi :1

107B5 86K S-CAPACITOR SWITCH TABLE

Hor. Freq.(KHz)	Q1	Q2	Q3	Q4
< 27.50	0	0	0	0
27.50-33.24	0	0	0	0
33.24-36.51	0	0	1	1
36.51-40.00	0	1	1	0
40.00-45.00	1	0	0	1
45.00-50.00	1	0	1	0
50.00-57.00	1	0	1	1
57.00-61.89	1	1	0	0
61.89-66.00	1	1	0	1
66.00-76.00	1	1	1	0
76.00-8200	1	1	1	1
> 82.00	1	1	1	1
Free run 48K	0	0	0	0

33,34,40,41 Hsync / Vsync → check sync.
Hsync_in=pin40
Vsync_in=pin41
Hsync_out=pin34
Vsync_out=pin33 →
1 . Normal
Fhout=Fhin
Fvout=Fvin
2. Self test
Hout=48Khz
Fvout=72Hz
3.sync out of rang
Fhin>72.8kHz,<28kHz
Fvin>168Hz, <45Hz

Vblank → check pin 3
Normal=vblank Pulse
Blank=Hi

20 LED driver → pin 22 OFF →

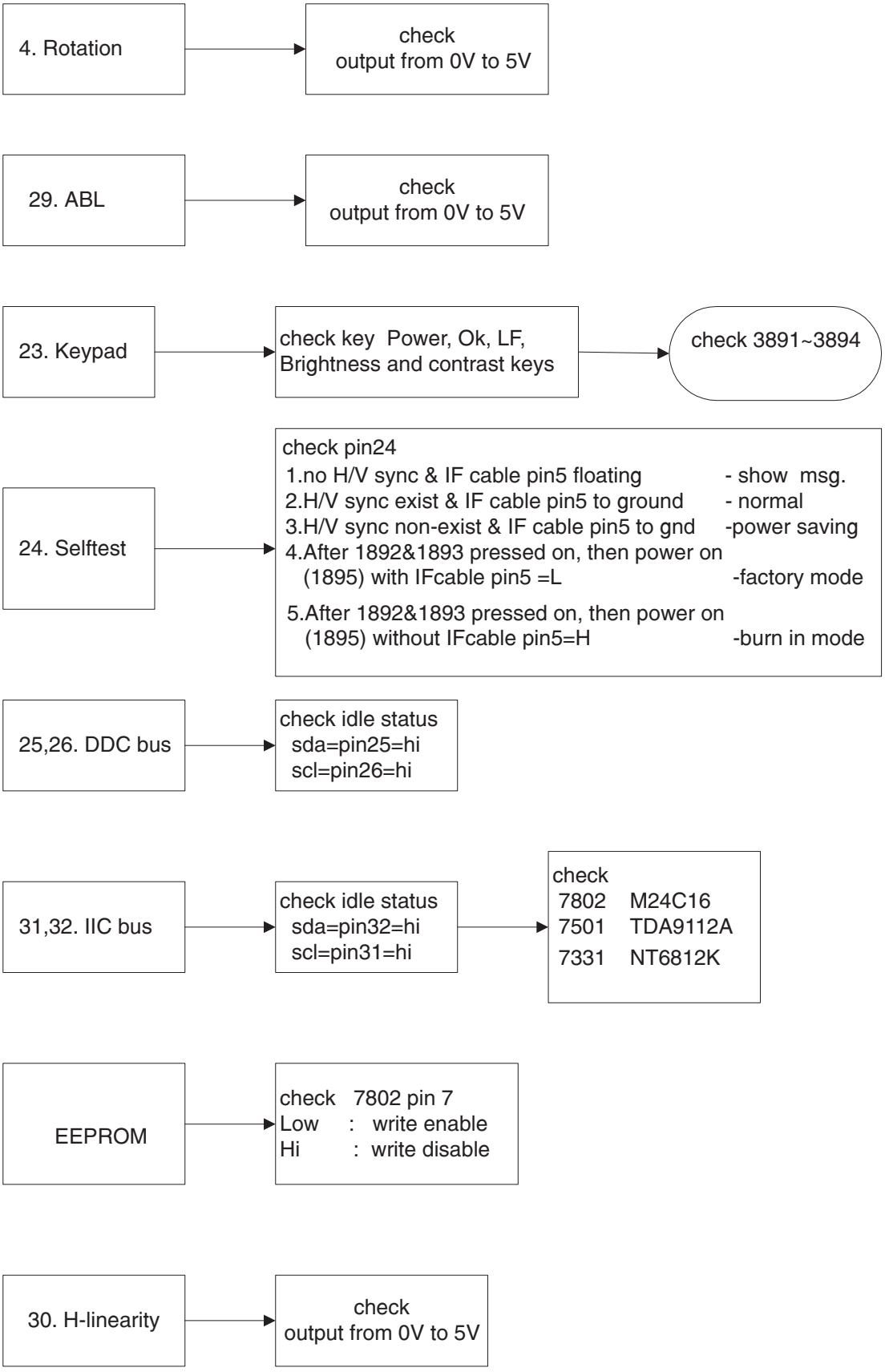
power saving	pin22
Normal	hi
Standby	low
Off	low

23. Degauss → check
active=hi
no active=low

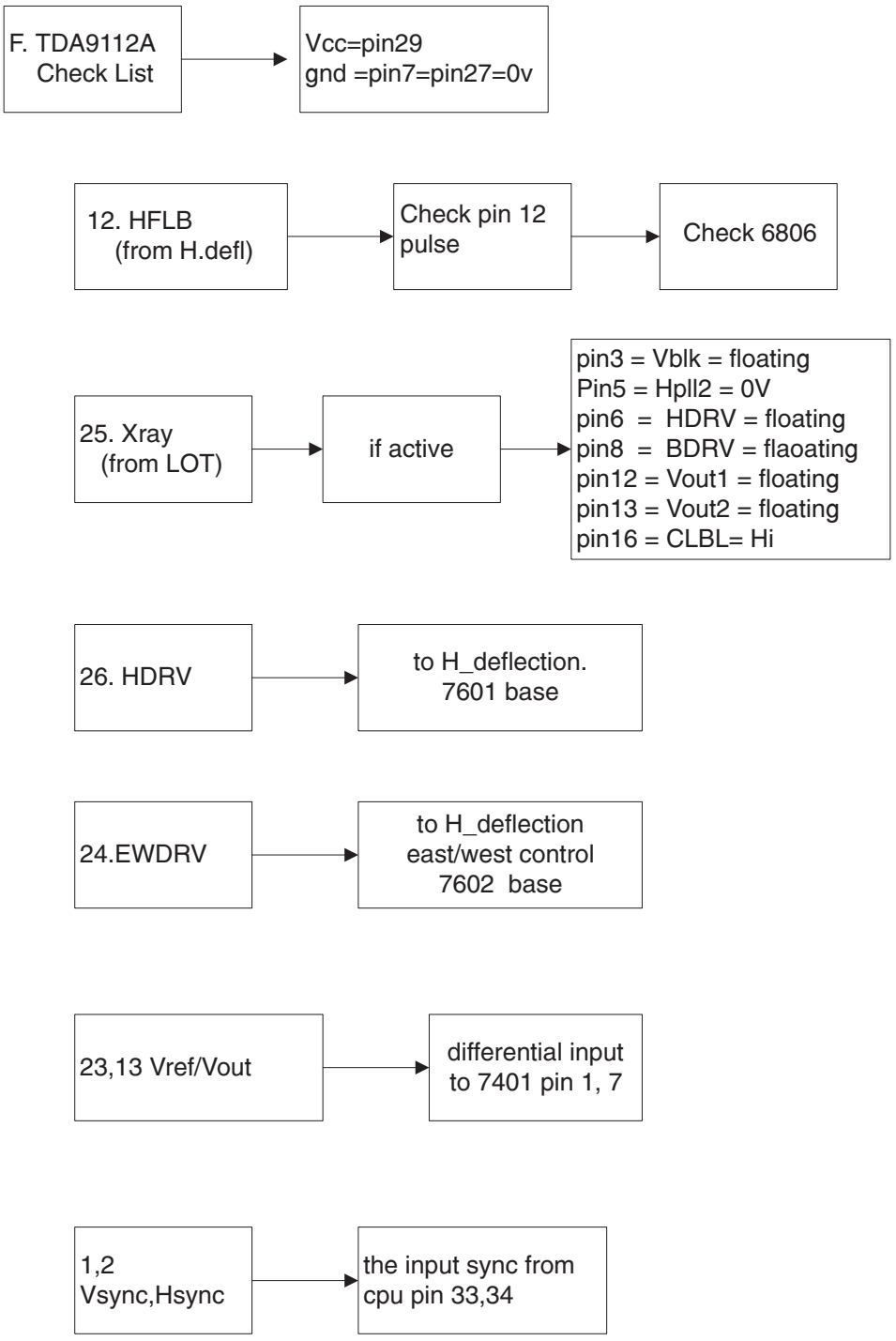
5, Reset → check
from 0V to 5V → check
2801 / 3801

Repair Flow Chart (Continued)

Go to cover page

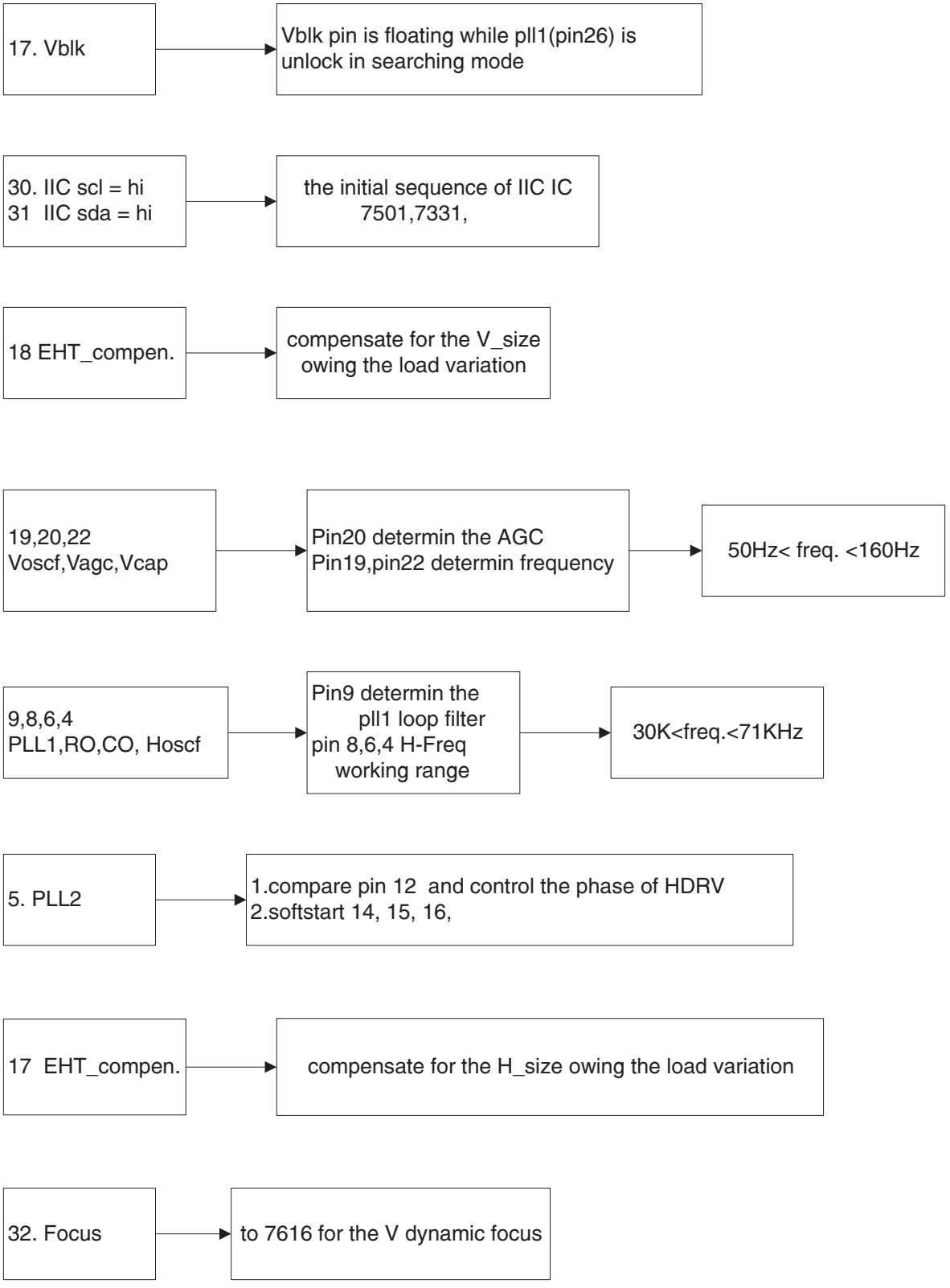


Repair Flow Chart (Continued)



Repair Flow Chart (Continued)

Go to cover page



LightFrame for Windows

Introduction

Philips LightFrame feature enriches the experience of pictures and video on a Philips CRT (picture tube) monitor. This highlighting is done by boosting the brightness and sharpness on a selected region of the monitor screen. Since high brightness and sharpness are not preferred for most standard Windows applications, this special feature will only be active in certain circumstances. So that you can control these circumstances, a special program and icons will be installed in your Windows operating systems.

Notes

Philips LightFrame will only work with monitors that have been built to use this software. Earlier Philips monitors or other manufacturers monitors will not work with this special software. It is recommended that you install this software only on a Philips monitor designed to use it. These monitors can be identified by the LightFrame logo on the front of the monitor.

LightFrame™ 3

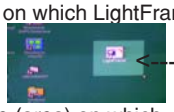
This software is not designed for use with LCD flat screen monitors.

LightFrame will work with true Windows-based programs and DOS-based programs that operate in a Windows environment. It will not work with DOS-based programs operating only in a DOS environment.

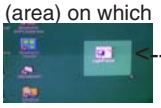
Definitions

The following list contains definitions for frequently used words.

Highlighted window:The selected window on which LightFrame is active.



Highlighted area: The selected rectangle (area) on which LightFrame is active.



Compatibility

This version of LightFrame is compatible with
Windows 95
Windows 98

Windows ME Millennium Edition

Windows NT
Windows 2000 Professional Edition

Windows XP

Language Selection

While English is the default language of LightFrame, the User Interface can be set up to operate in Dutch, French, German, Italian, Portuguese, or Spanish.

Installation

1) To install LightFrame, place the CD in the CD-ROM drive.

2) Next, when the menu of items on the CD appears on your screen, click on 'Install LightFrame'.

3) Now, follow the on-screen prompts to properly install the program. The software checks to see if you have a compatible monitor. You must say yes to the license agreement for the software to install.

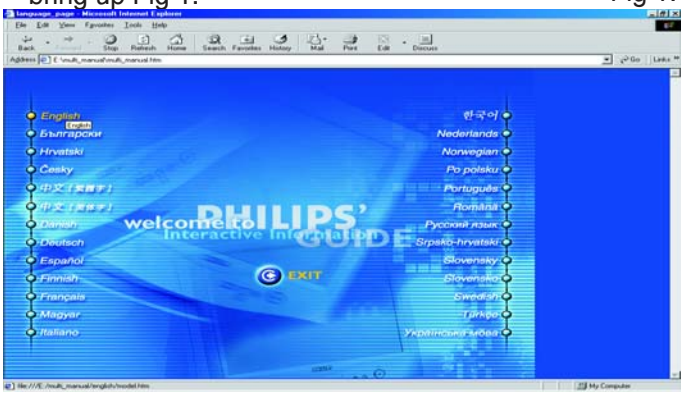
4) After installation, LightFrame automatically loads and the icon appears in the taskbar.

Notes

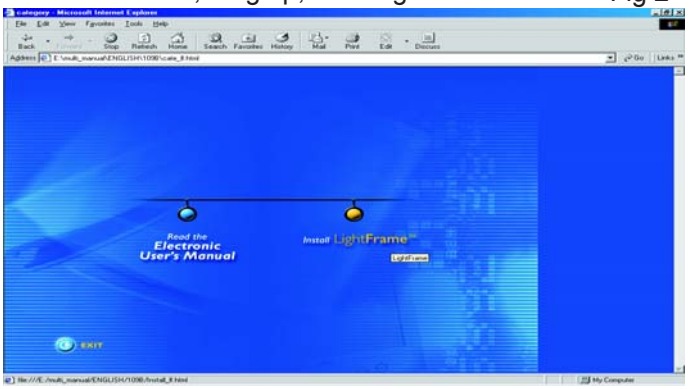
LightFrame is installed in the Start menu, under Programs. Unless otherwise selected during installation, LightFrame is installed in C:\Program Files\Philips\LightFrame. A shortcut is installed in the StartUp folder and on the desktop. (If needed, LightFrame can be operated manually from the StartUp folder.)

If LightFrame detects that your monitor is not LightFrame compatible, an message appears on the monitor screen. See Error Message number 1 under the heading Error Messages. If you see this message, you can select to abort or continue the installation. However, if you continue the installation, LightFrame will probably not work on the monitor.

1. Put CD-ROM into CD-ROM Drive, bring up Fig 1. Fig 1.



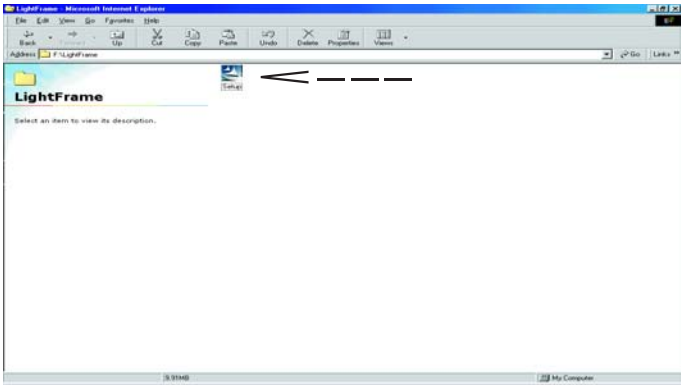
2. Click one of languages (for example : English) on the screen,bring up, click Light Frame icon as Fig 2



3. Click LightFrame, bring up, click Continue icon as Fig.3 Fig 3

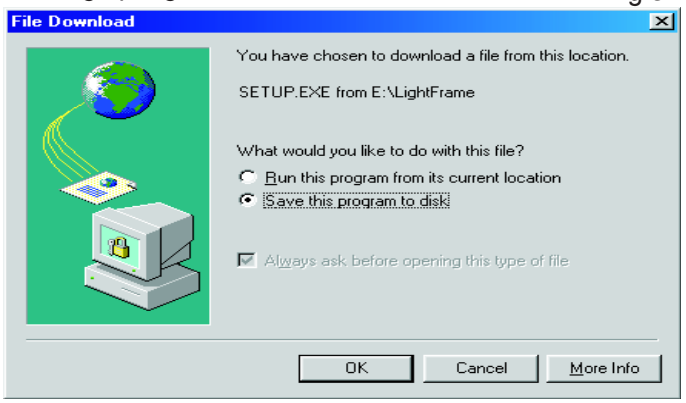


4. Click Next, bring up, Light Frame setup file as Fig.4 Fig 4



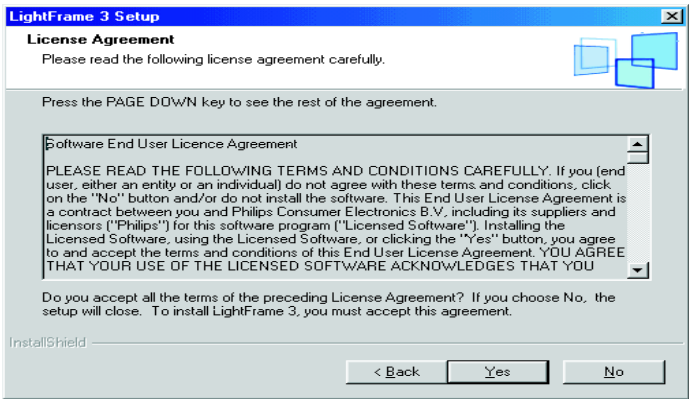
5. Click Yes,
bring up Fig.5

Fig 5



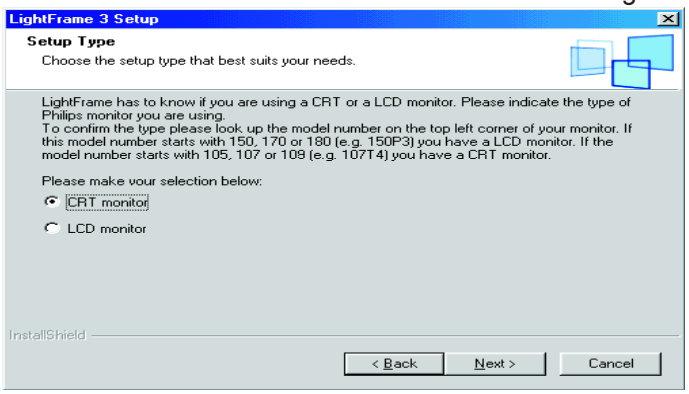
6. Click Next,
bring up Fig.6

Fig 6



7. Click Next,
bring up Fig.7

Fig 7



8. Click Next,
bring up Fig8 & Fig 9

Fig 8

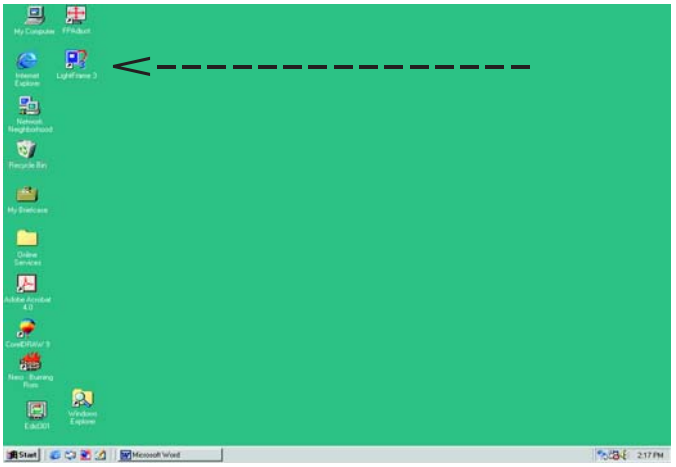


Fig 9



9. Click Finish,
bring up LightFrame 3, Fig. 10 on the desktop.

Fig 10



Uninstall

Should you need to remove the LightFrame software, please follow these steps.

1) First, click on the Start Menu.
2) Next, highlight Settings.
3) Then, click on Control Panel.
4) Now, click on Add/Remove Programs
5) Finally, select LightFrame from the list and then click on the Add/Remove button.

Operating LightFrame

After installation, LightFrame starts up automatically whenever the computer is started. At system start up, LightFrame checks the selected resolution of the monitor and if the monitor is LightFrame capable.

Icon and Colors

An icon of a monitor represents LightFrame on your desktop. This icon appears as a shortcut on the Windows desktop. LightFrame has three (3) modes of operation: Active, Inactive, and Suspended. The same icon with a different color in its center represents each mode.
Active = The LightFrame taskbar as below.

Inactive = The taskbar as below.



Suspended = The taskbar as below.





Notes

An active window must be 100% visible, i.e. it must be on top of all other windows or areas. If any part of another window or area overlaps a highlighted window, LightFrame automatically suspends operation. Once that window or area is removed and the original highlighted window is on top again, LightFrame automatically re-engages and the icon regains its bright green center.

An active window must also be 100% on the monitors viewing area. If part of a highlighted window moves off the monitors viewing area, LightFrame automatically goes into the Suspended mode. If part of a window is off the viewing area, you will not be able to use LightFrame on that window.

Only one window or area at a time can be highlighted.

How To Activate LightFrame

1) Click on the LightFrame icon  Fig. A in the systemtray. The icon will be changed to  Fig.B.

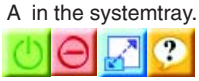
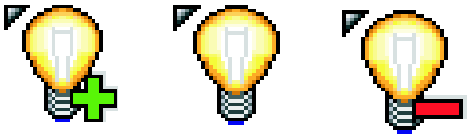


Fig.A

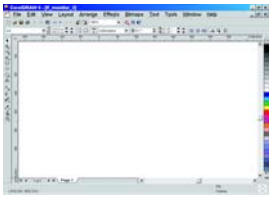


Fig.B

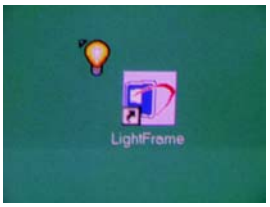
2) Guide the mouse to the window you want displayed. As you move the mouse, the cursor changes to a small arrow with a light bulb.

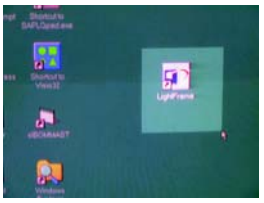


3a) Click on the window you want to have highlighted. The brightness and sharpness are automatically adjusted.



3b) If you want to highlight only an area of a window, click on the left mouse button and drag the cursor over the area to be highlighted while holding the mouse button. A rectangle forms around the area. When the area is encompassed by the rectangle, release the mouse button and the area becomes highlighted.





How to Deactivate LightFrame

To deactivate, click on the LightFrame icon in the System Tray of the Taskbar. Click  Icon, as Fig.1and Taskbar will be changed to Fig. 2 and LightFrame is deactivated.



Fig.1



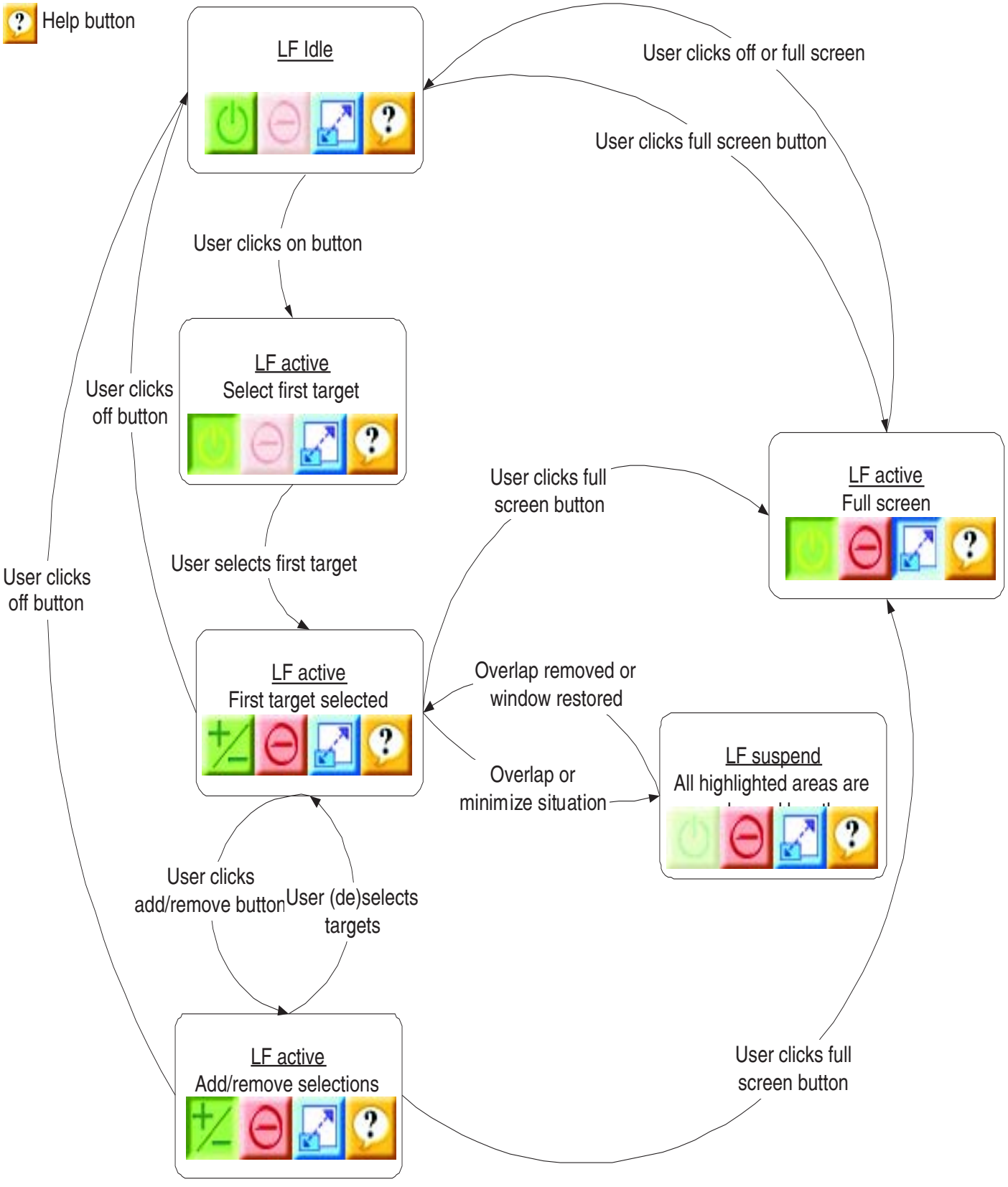
Fig.2

Note

If a highlighted window is closed before LightFrame is deactivated, LightFrame is automatically deactivated.

On button
Add/remove button
Off button
Full screen button
Help button

LightFrame 3 State and transition diagram Combined with Control bar appearance



0. Warning

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential !

1. Servicing of SMDs (Surface Mounted Devices)

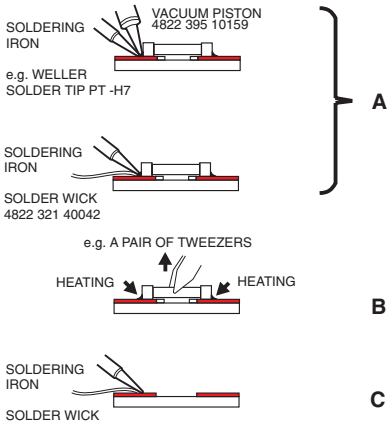
1.1 General cautions on handling and storage

- Oxidation on the terminals of SMDs results in poor soldering. Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change. Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs

- Heat the solder (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron. They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



- While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).
- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

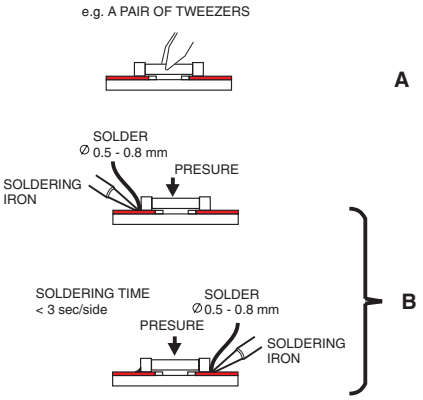
1.3 Caution on removal

- When handling the soldering.iron. use suitable pressure and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).
- The chip, once removed, must never be reused.

1.4 Attachment of SMDs

- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig.2A).
- Next complete the soldering of the terminals of the component (see Fiq. 2B).

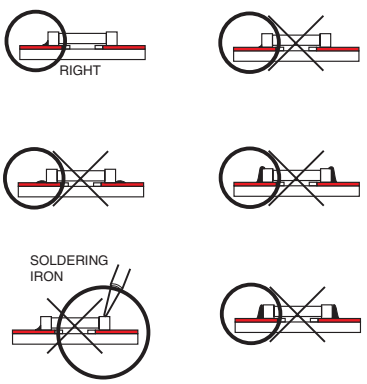
Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 °C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

Fig. 3 Examples



Safety test requirements

All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both **Hipot** and **Ground Continuity** testing.

HI-POT TEST INSTRUCTION

1. Application requirements

1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.

1.2 This test must be performed again after the covers have been refitted following the repair, inspection or modification of the product.

2. Test method

2.1 Connecting conditions

2.1.1 The test specified must be applied between the parallel-blade plug of the mainscord and all accessible metal parts of the product.

2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.

2.1.3 The mains switch(es) must be in the "ON" position.

2.2 Test Requirements

All products should be HiPot and Ground Continuity tested as follows:

Condition	HiPot Test for products where the mains input range is Full range(or 220V AC)	HiPot Test for products where the mains input is 110V AC(USA type)	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A,AC Test time: 3 seconds(min.) Resistance required: <=0.09+R ohm, R is the resistance of the mains cord.
Test time (min.)	3 seconds	1 second	
Trip current (Tester)	set at 100 uA for Max. limitation; set at 0.1 uA for Min. limitation	5 mA	
Ramp time	set at 2 seconds		

2.2.1 The test with AC voltage is only for production purpose, Service center shall use DC voltage.

2.2.2 The minimum test duration for Quality Control Inspector must be 1 minute.No breakdown during the test.

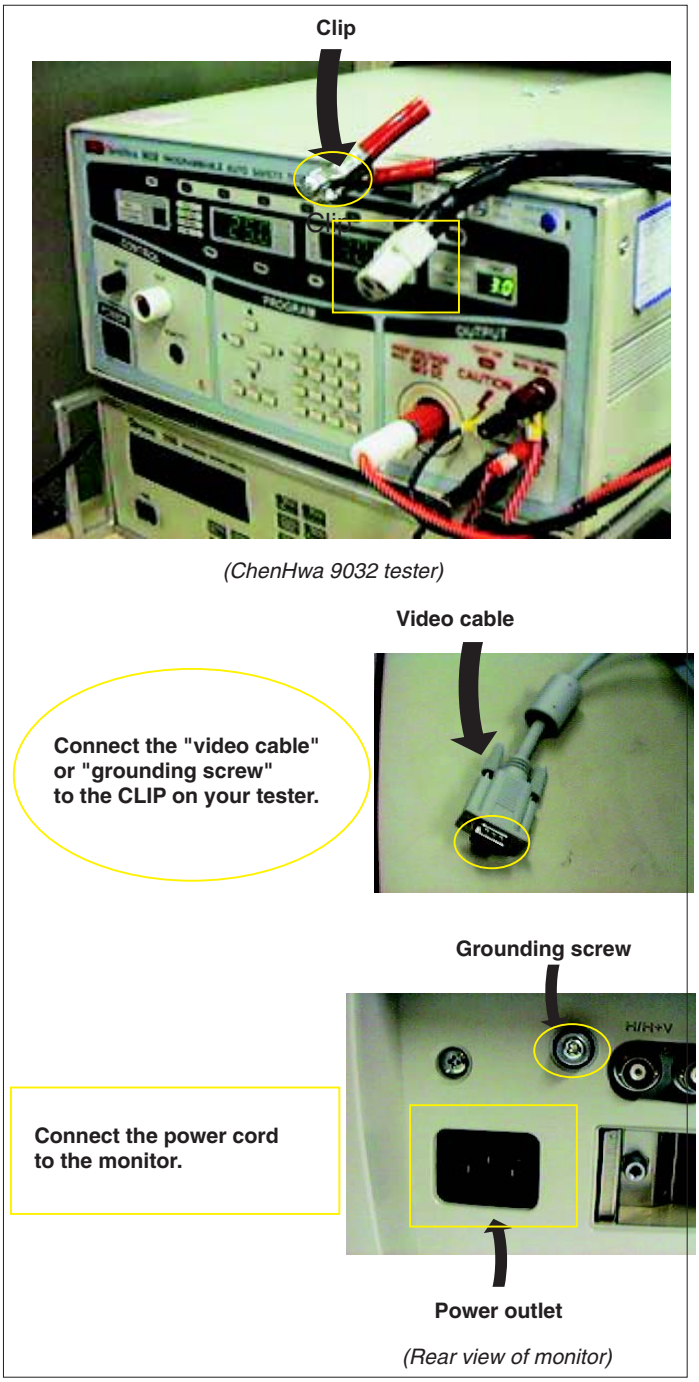
2.2.3 The test voltage must be maintained within the specified voltage + 5%.

2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection

3.1. Equipments
For example :
- ChenHwa 9032 PROGRAMMABLE AUTO SAFETY TESTER
- ChenHwa 510B Digital Grounding Continuity Tester
- ChenHwa 901 (AC Hi-pot test), 902 (AC, DC Hi-pot test) Withstanding Tester

3.2. Connection
* Turn on the power switch of monitor before Hipot and Ground Continuity testing.



4. Recording

Hipot and Ground Continuity testing records have to be kept for a period of 10 years.

General Troubleshooting Guide



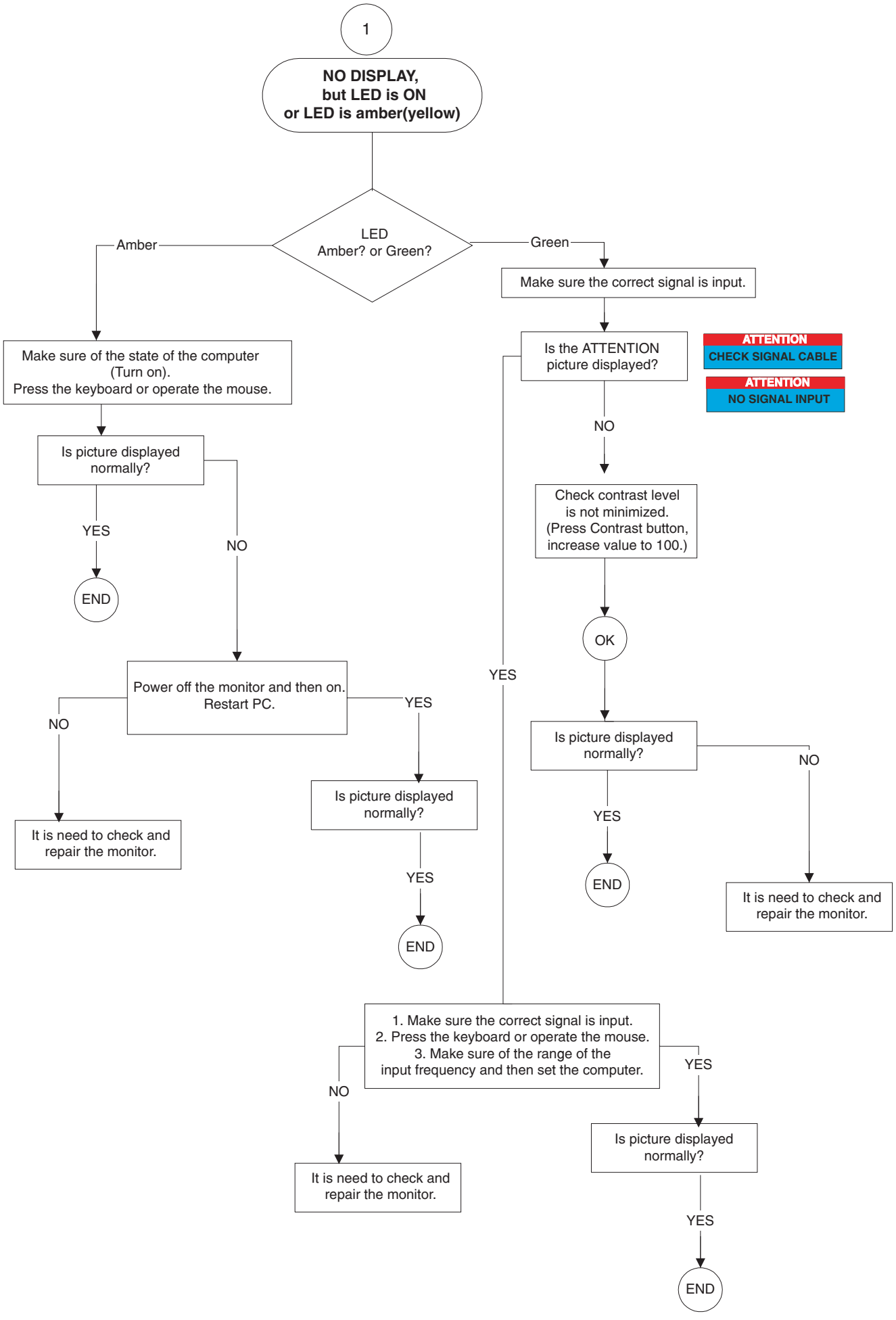
1. No Display, but LED is ON or LED is amber (yellow)
2. Monitor drivers (inf file)
3. Focus
4. Degaussing
5. Picture distortion (Geometry)
6. Unstable Picture/ Picture Flickers
7. H/V Rolling, H/V Sync.
8. Picture too bright
9. Picture too dim
10. No Power / LED is off



11. Moire
12. OSD main menu locked
13. Shimmering / Jitter/Video Noise
14. Missing Color
15. Color Purity
16. Power management function is not active
17. A buzzing sound when powering on
18. CustoMax
19. Colorific
20. USB
21. Picture too Large or Small

Note : Not all described feature are applicable for all monitors.

General Troubleshooting Guide



2

Picture is too bright or dark

Press the OK button
Bring up "MAIN CONTROLS" window

NO

Make sure of the signal cable connection.
Make sure of the state of the computer (Turn on).
Press the keyboard or operate the mouse.

YES

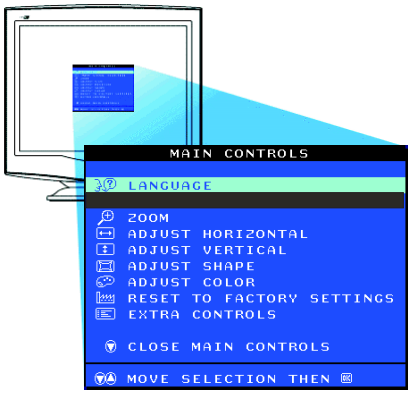
Is picture displayed normally?

YES

END

NO

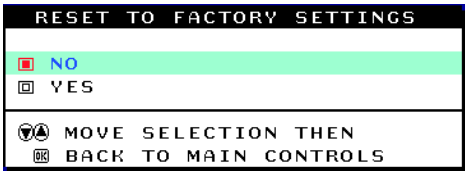
It is need to check and repair the monitor.



YES

Select "RESET TO FACTORY SETTINGS"

Press the OK button
Bring up "RESET TO FACTORY SETTINGS" window



Press the DOWN button
to select "YES"

Is picture displayed normally?

YES

Press the OK button
Press the OK button

YES

END

General Troubleshooting Guide

3

Plug & Play is not active normally

for Windows 95/98/2000/Me or later

Philips' monitors build in VESA DDC2B feature to support Plug & Play requirement for Windows 95/98/2000/Me . You can install the information file (.inf) in order to select your Philips monitor from "Monitor" dialog box in Windows 95/98/2000/Me to activate Plug & Play application. The installation procedure based on
Windows '95 OEM Release 2 , 98 , Me and 2000 is specified as follows,
(In case of connecting the monitor to the PC compliant with VESA standard with the designated signal cable, the PC reads display pixels, frequency, and color feature of this monitor to optimise the picture for the monitor automatically.)
DDC : Abbreviation for Display Data Channel

**** Windows NT 4.0 does not inquire driver (inf file) for monitors.****

For Windows 95

1. Start Windows '95
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, point to 'Change...' then click 'Have Disk...'.
6. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
7. Click the 'OK' button then choose your monitor model and click the 'OK'.
8. Click 'Close' button.

For Windows 98

1. Start Windows 98
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, point to 'Change...' then click 'Next'
6. Choose "Display a list of all the drivers in a specific location, so you can select the driver you want." then click 'Next' and then click 'Have Disk...'.
7. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
8. Click the 'OK' button then choose your monitor model and click the 'Next' button then click 'Next' button.
9. Click 'Finish' button then the 'Close' button.

For Windows Me

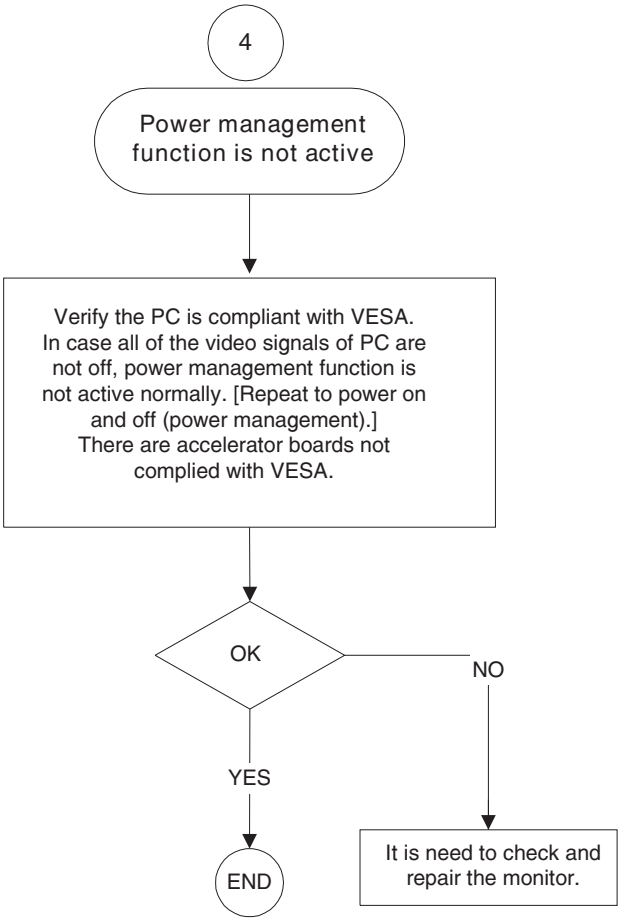
1. Start Windows Me
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor' button, then click 'Change...' button.
6. Choose "Specify the location of the driver(Advanced)" and click the 'Next' button.
7. Choose "Display a list of all the drivers in a specific location, so you can select the driver you want." then click 'Next' and then click 'Have Disk...'.
8. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive) then click 'OK' button.
9. Click the 'OK' button then choose your monitor model and click the 'Next' button then click 'Next' button.
10. Click 'Finish' button then the 'Close' button.

For Windows 2000

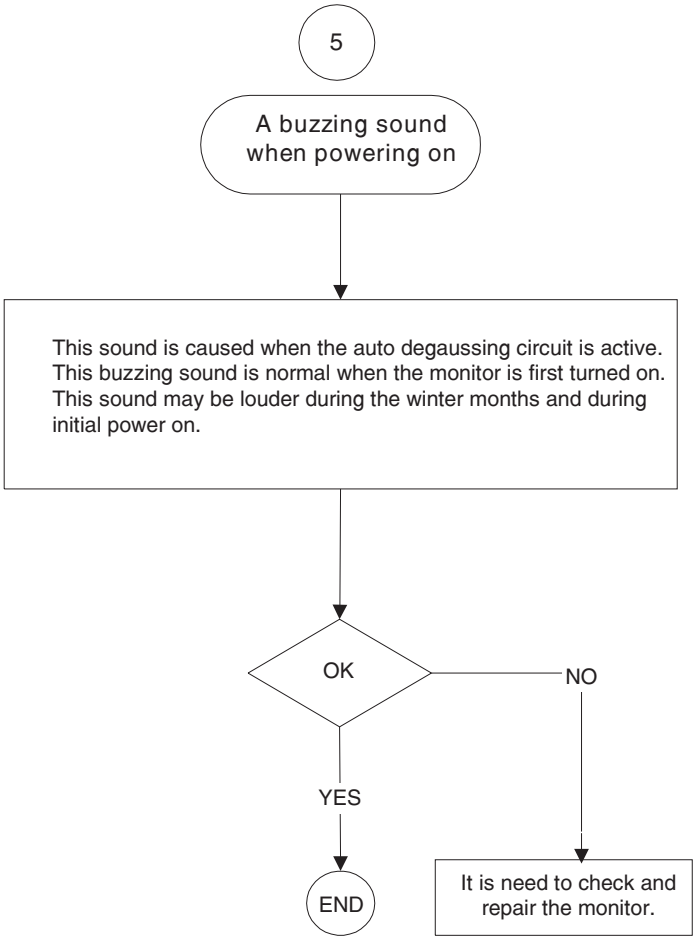
1. Start Windows 2000
2. Click the 'Start' button, point to 'Setting', and then click 'Control Panel'.
3. Double Click the 'Display' Icon.
4. Choose the 'Settings' tab then click 'Advanced...'.
5. Choose 'Monitor'
 - If the 'Properties' button is inactive, it means your monitor is properly configured. Please stop installation.
 - If the 'Properties' button is active. Click 'Properties' button. Please follow next step continually.
6. Click 'Driver' and then click on 'Update Driver...' then click on the 'Next' button.
7. Choose "Display a list of the known drivers for this device so that I can choose a specific driver then click 'Next' and then click 'Have disk...'.
8. Click 'Browse...' button then choose the appropriate drive F: (CD-ROM Drive).
9. Click the 'Open' button, then click the 'OK' button.
10. Choose your monitor model and click the 'Next' button then click 'Next' button.
11. Click 'Finish' button then the 'Close' button.

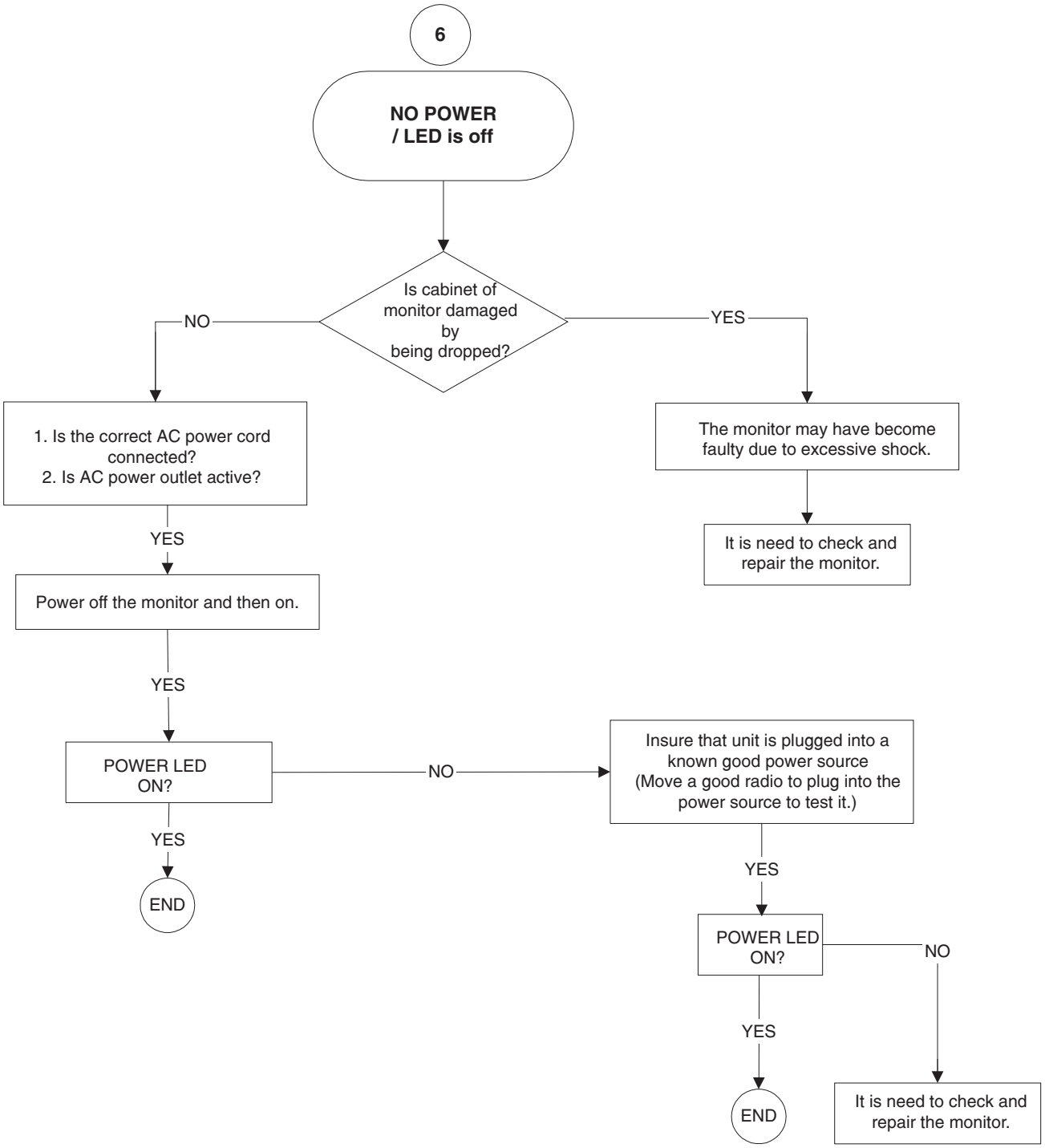
If you can see the "Digital Signature Not Found" window then click the 'Yes' button.

If your Windows 95/98/2000/Me version is different or you need more detail installation information, please refer to Windows 95/98/2000/Me user's manual.


4
Power management function is not active
Verify the PC is compliant with VESA. In case all of the video signals of PC are not off, power management function is not active normally. [Repeat to power on and off (power management).] There are accelerator boards not complied with VESA.
OK
NO
YES
END
It is need to check and repair the monitor.

General Troubleshooting Guide




6
NO POWER
/ LED is off
Is cabinet of monitor damaged by being dropped?
NO
YES
1. Is the correct AC power cord connected?
2. Is AC power outlet active?
YES
Power off the monitor and then on.
YES
POWER LED ON?
YES
END
NO
Insure that unit is plugged into a known good power source (Move a good radio to plug into the power source to test it.)
YES
POWER LED ON?
NO
YES
END
It is need to check and repair the monitor.
The monitor may have become faulty due to excessive shock.
It is need to check and repair the monitor.

General Troubleshooting Guide

7

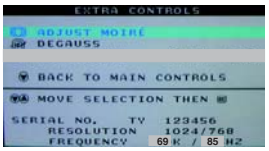
Color has irregularity

Have you changed the tilt or swivel angle of the monitor?

YES

Press OK " OK " button
Select "EXTRA CONTROLS"

Press the OK OK button
Bring up "EXTRA CONTROLS" window



Press the DOWN button
to select "DEGAUSS",
then press OK " OK " button

Is picture displayed normally?

NO

YES

END

Are there any stray fields such as magnetic and speaker near the monitor?
Keep any stray magnetism away from the computer.

YES

Is picture displayed normally?

YES

END

NO

* Keep any stray magnetism away from the computer.
* Reset to Factory settings.
* Press "DEGAUSS" selection.

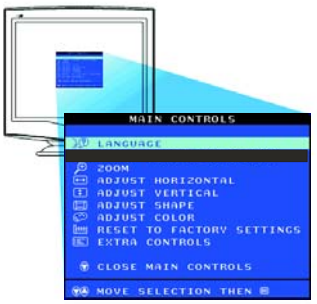
Unsuccessful

It is need to check and repair the monitor.

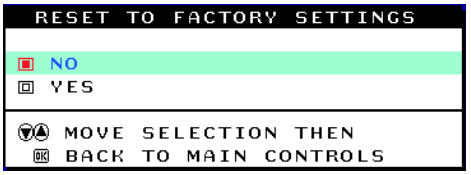
Did you adjust the red, green, and blue colors?

YES

Select "RESET TO FACTORY SETTINGS"



Press the OK OK button
Bring up "RESET TO FACTORY SETTINGS" window



Press the DOWN button
to select "YES"

Is picture displayed normally?

NO

YES

Press the OK OK button
Press the OK OK button

YES

END

7

Picture distortion is not adjusted normally.

Is it possible to make adjustment by using the On Screen Display ?

Press "OK" button, then bring up "MAIN CONTROLS" window.

Adjust Horizontal, Vertical or Shape.

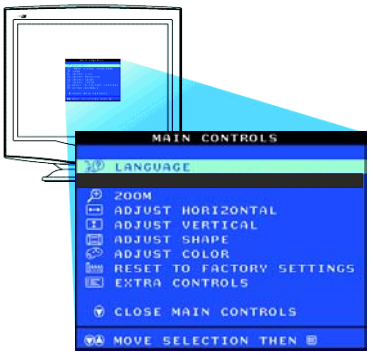
Is picture displayed normally

YES

END

YES

Press the OK button
Bring up "MAIN CONTROLS" window

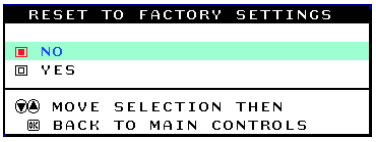


YES

Select "RESET TO FACTORY SETTINGS"

Press the OK button
Bring up "RESET TO FACTORY SETTINGS" window

Press the DOWN button
to select "YES"



Is picture displayed normally?

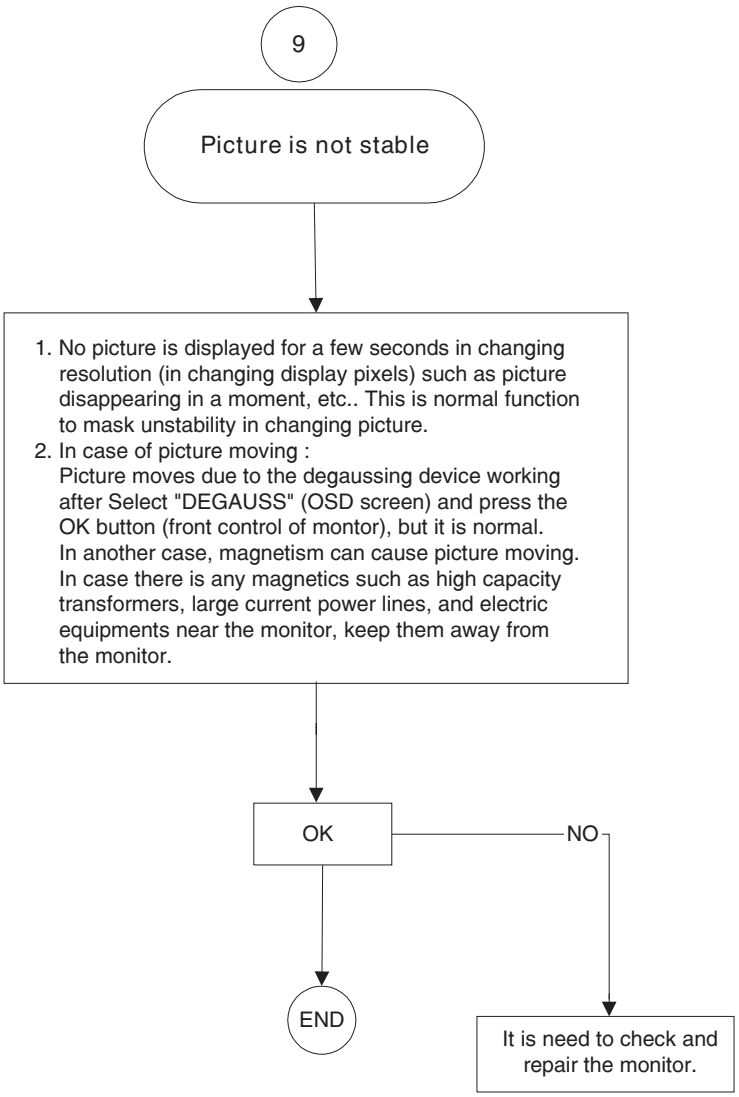
YES

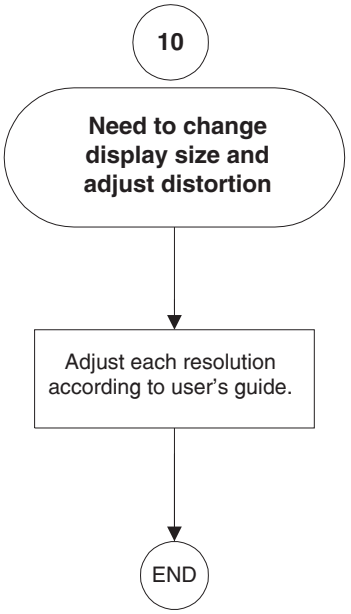
Press the OK button
Press the OK button

YES

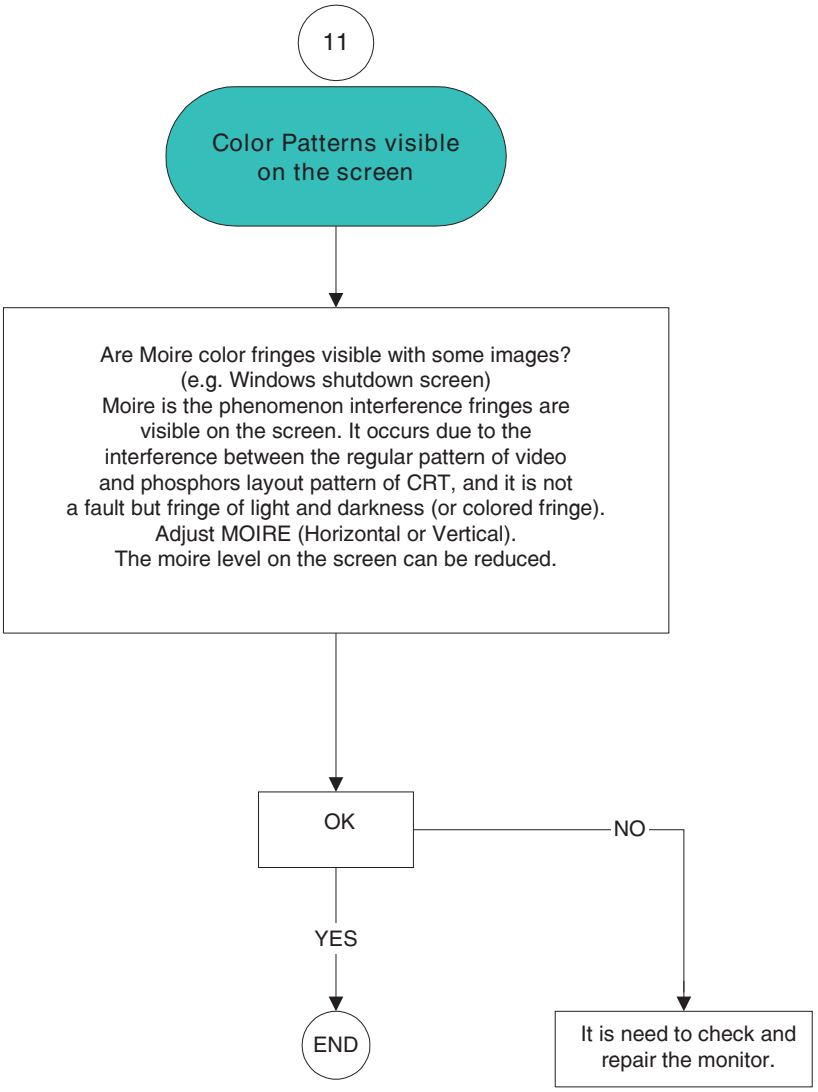
END

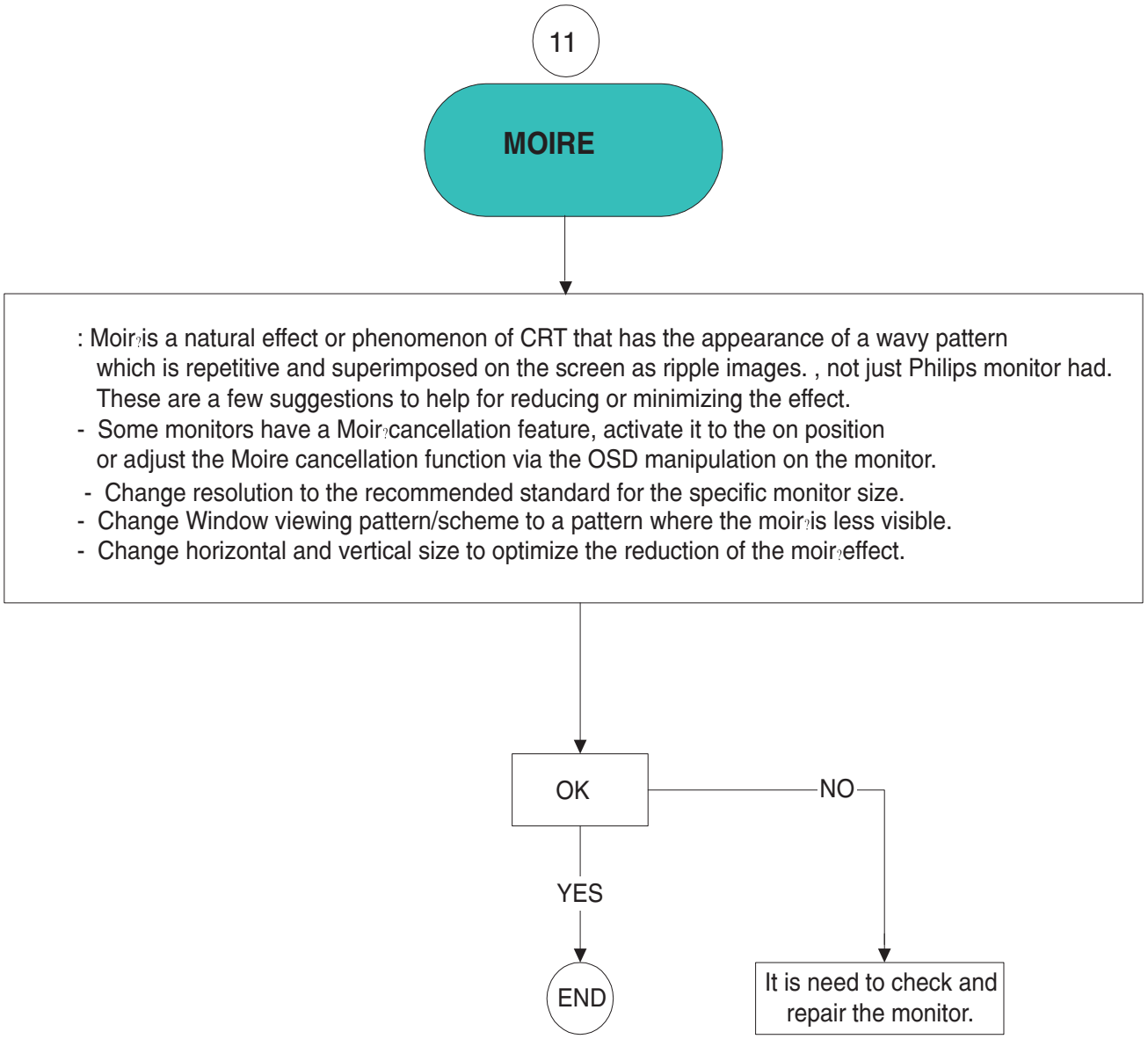
General Troubleshooting Guide




10
Need to change display size and adjust distortion
Adjust each resolution according to user's guide.
END

General Troubleshooting Guide



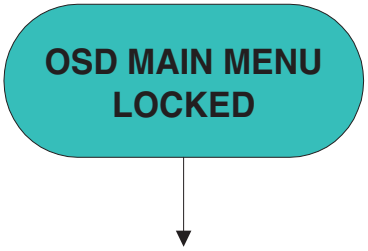


MOIR□

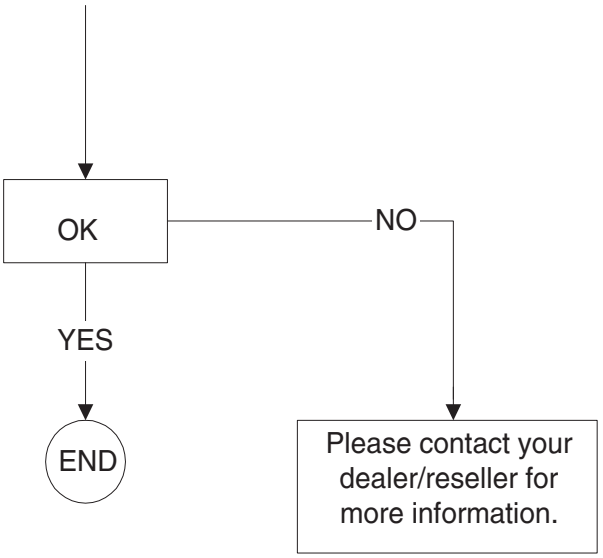
A fringe pattern arising from the interference between two superimposed line patterns. In a monitor it comes from the interference between the shadow mask pattern and the video information (video moir?, and between the shadow mask and the horizontal line pattern (scan moir?. It shows itself as wavy patterns on the screen and becomes more noticeable as monitor resolution increases. Since the video signals varies continuously, little can be done about video moir? Scan moir? depends on the horizontal scanning frequency and can be alleviated by appropriate choice of this frequency. Autoscan (MultiSync) monitors, however, which operate over a range of scanning frequencies, may sometimes exhibit moir? in certain video modes.

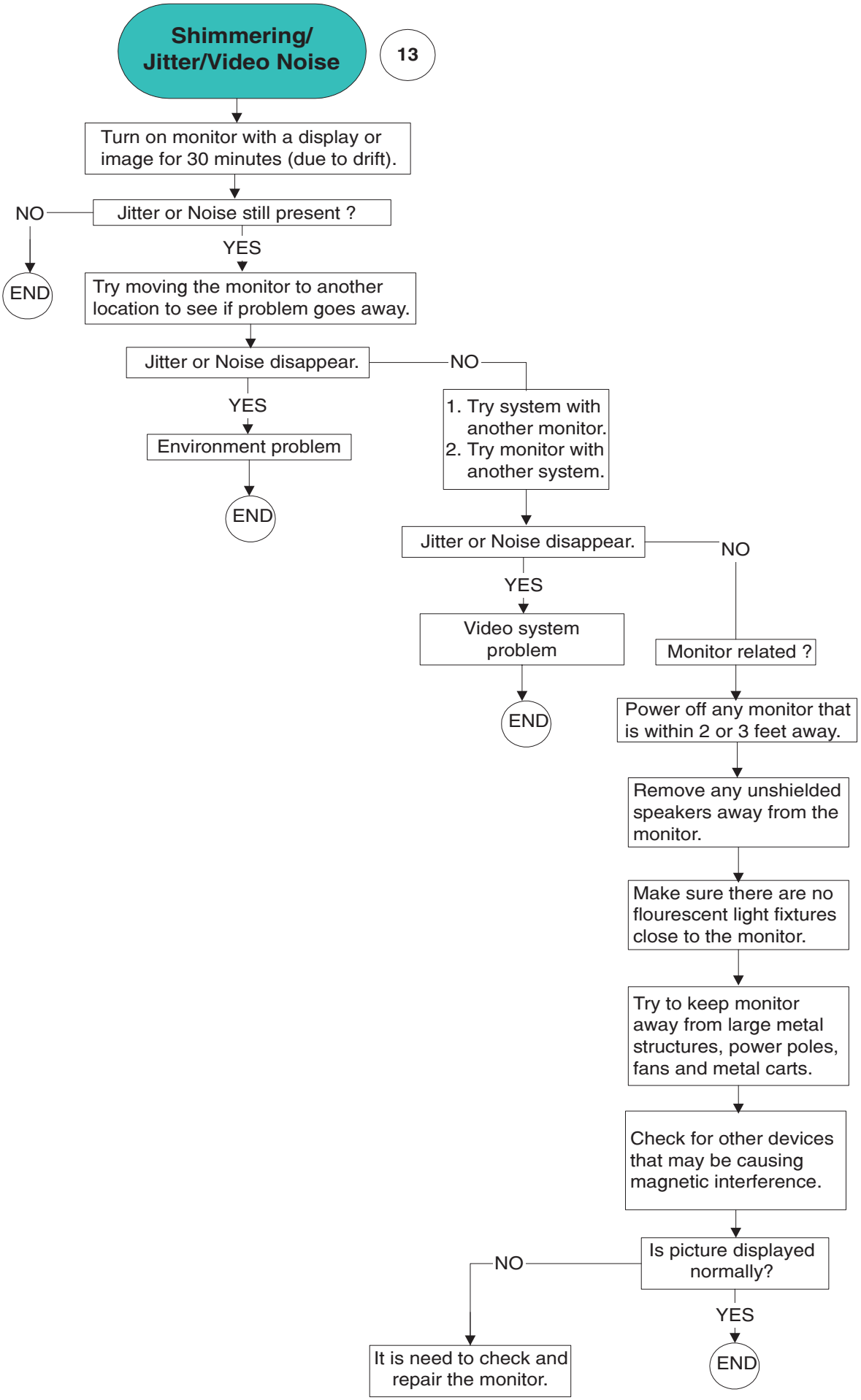
Several sources can act as a catalyzer to produce Moire. They are : The CRT, shadow mask, the electron beam spot size, the resolution, video patterns, and the horizontal and vertical size.

General Troubleshooting Guide

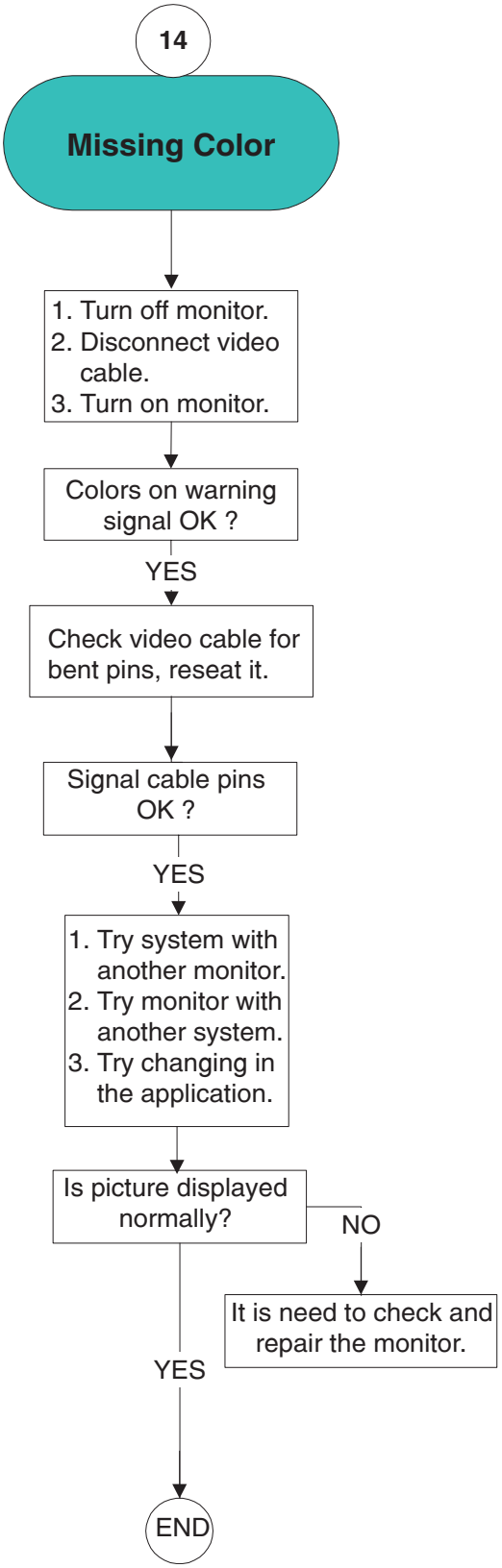


Press and hold the OSD menu key for about 10 seconds ,
until picture displays "OSD MAIN MENU UNLOCKED"



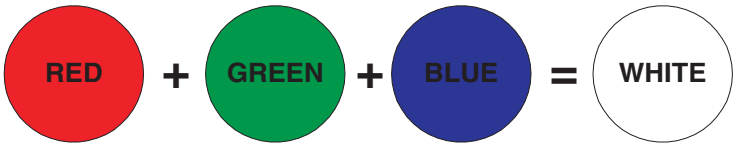

Shimmering/ Jitter/Video Noise
13
Turn on monitor with a display or image for 30 minutes (due to drift).
Jitter or Noise still present ?
NO
YES
END
Try moving the monitor to another location to see if problem goes away.
Jitter or Noise disappear.
NO
YES
Environment problem
END
1. Try system with another monitor.
2. Try monitor with another system.
Jitter or Noise disappear.
NO
YES
Video system problem
END
Monitor related ?
Power off any monitor that is within 2 or 3 feet away.
Remove any unshielded speakers away from the monitor.
Make sure there are no flourescent light fixtures close to the monitor.
Try to keep monitor away from large metal structures, power poles, fans and metal carts.
Check for other devices that may be causing magnetic interference.
Is picture displayed normally?
NO
YES
It is need to check and repair the monitor.
END

General Troubleshooting Guide

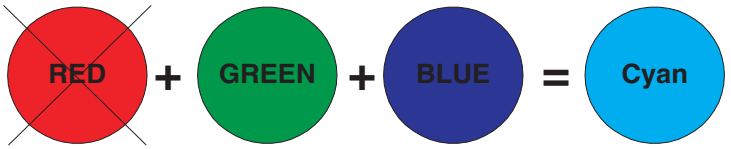


There are 2 easy ways to determine the Missing color problem.

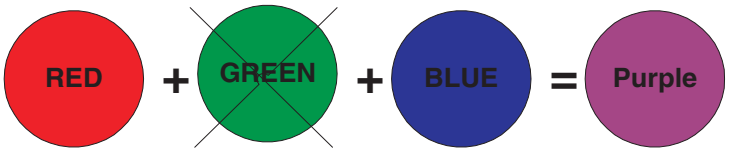
1. View an image that is supposed to be "White".
 If one of the colors (RGB) is not functioning.
 White can not be produced.
2. View an image that supposed to contain Red, Green and Blue.
 Color problems will be apparent when one or more of these colors can not be displayed.



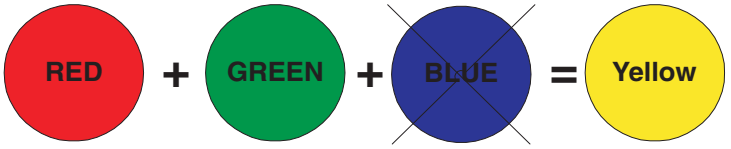
Cyan Color means that the red gun is missing.

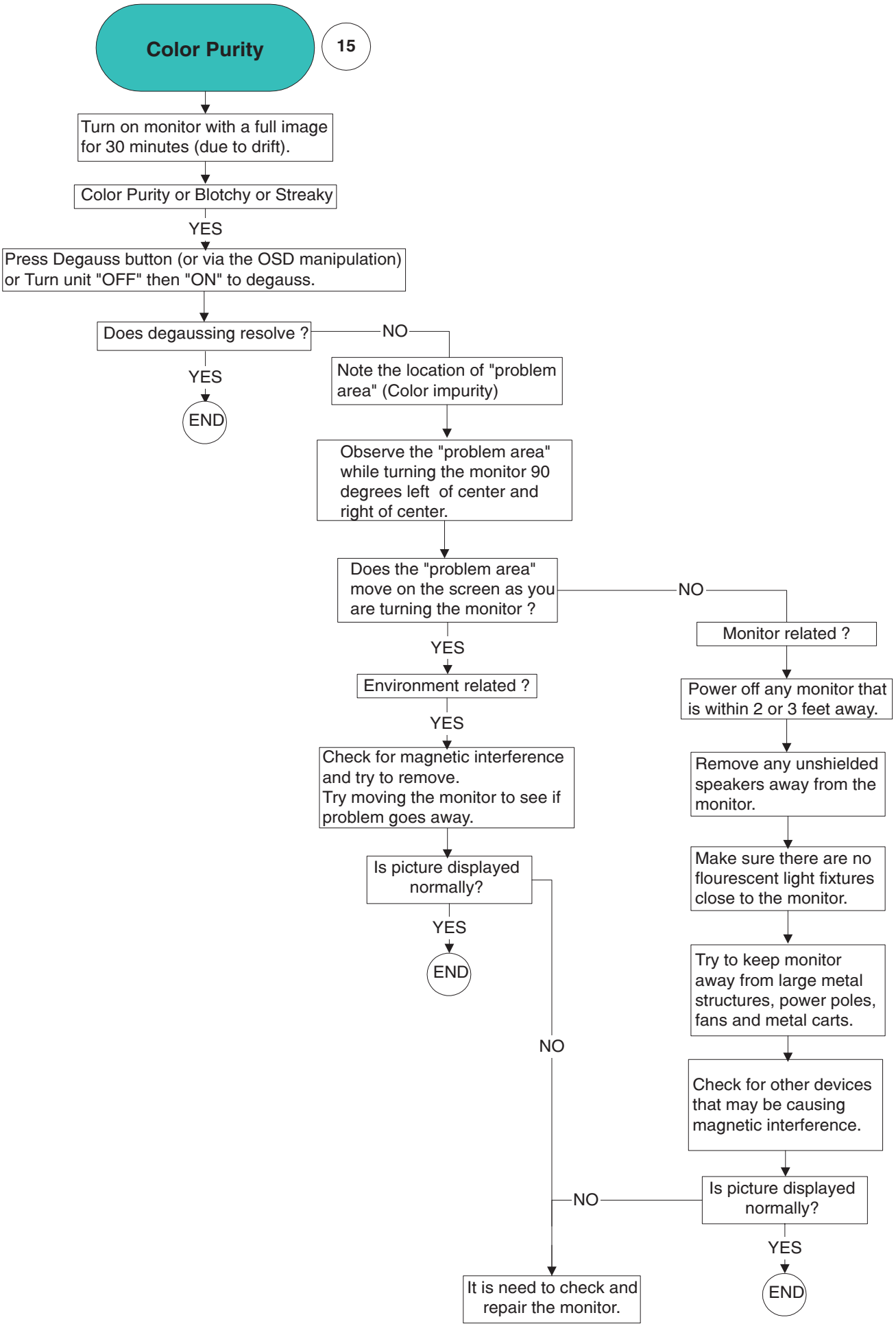


Magenta or Purple Color means that the green gun is missing.

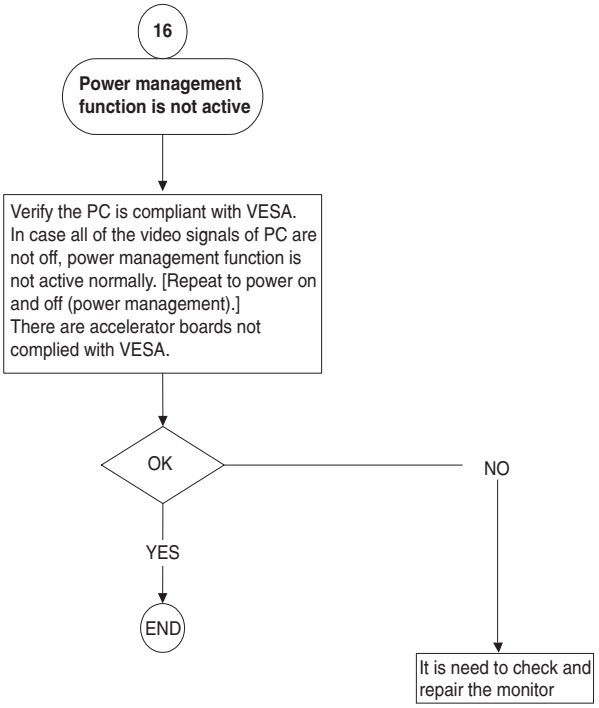


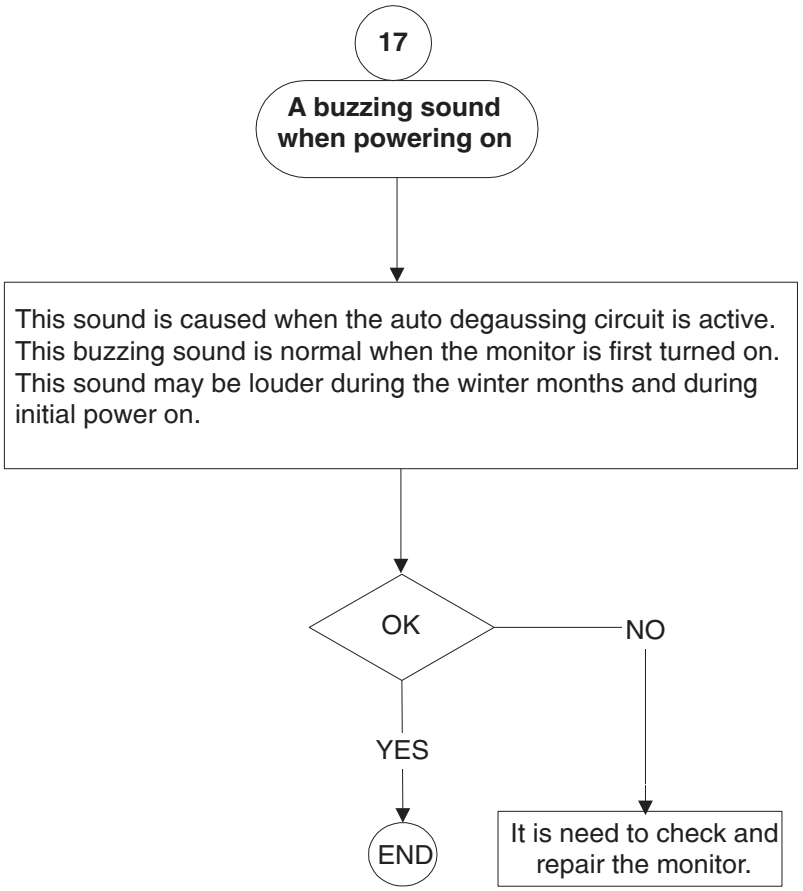
Yellow Color means that the blue gun is missing.



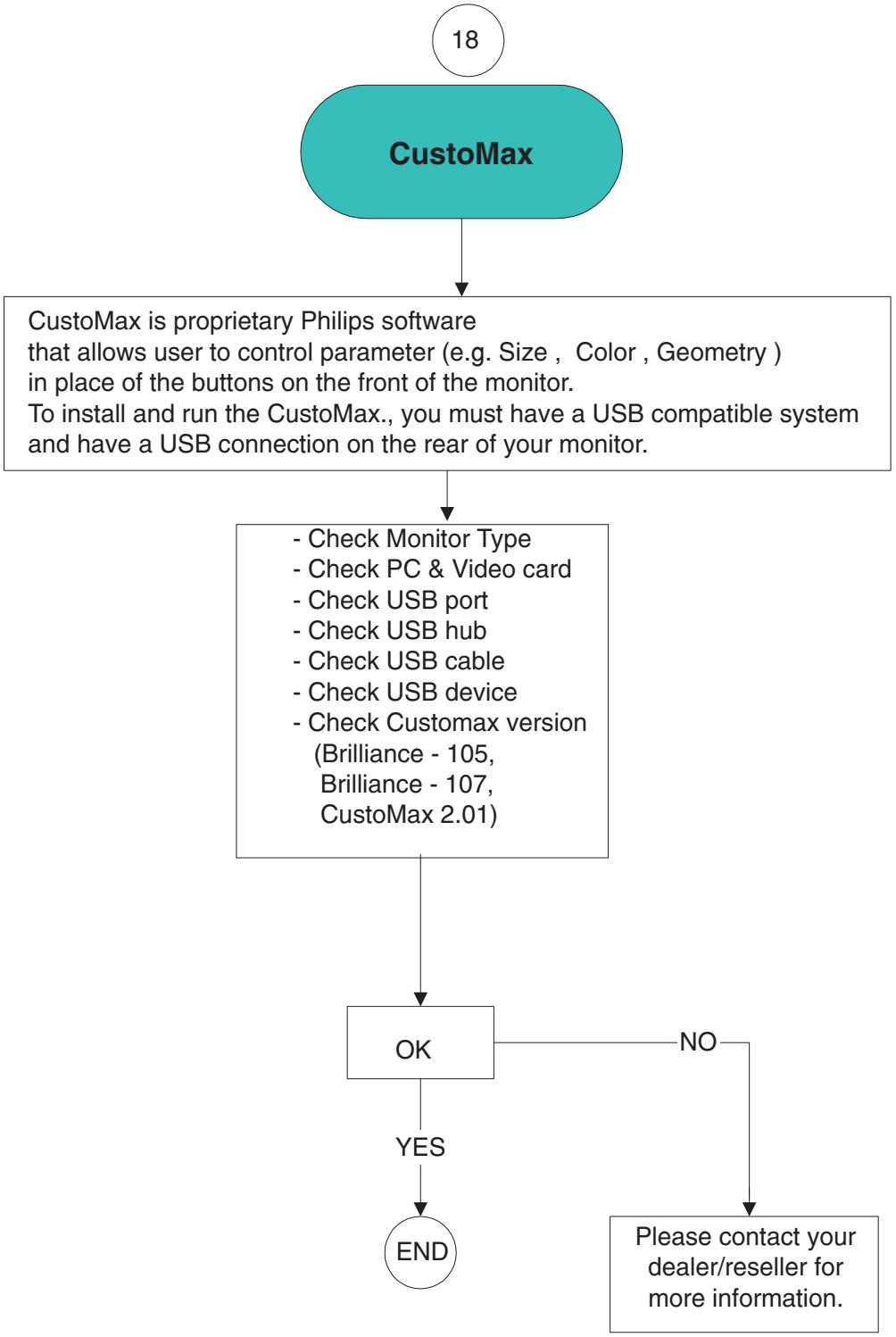

Color Purity
15
Turn on monitor with a full image for 30 minutes (due to drift).
Color Purity or Blotchy or Streaky
YES
Press Degauss button (or via the OSD manipulation) or Turn unit "OFF" then "ON" to degauss.
Does degaussing resolve ?
NO
YES
END
Note the location of "problem area" (Color impurity)
Observe the "problem area" while turning the monitor 90 degrees left of center and right of center.
Does the "problem area" move on the screen as you are turning the monitor ?
NO
YES
Environment related ?
YES
Check for magnetic interference and try to remove.
Try moving the monitor to see if problem goes away.
Is picture displayed normally?
YES
END
NO
Monitor related ?
Power off any monitor that is within 2 or 3 feet away.
Remove any unshielded speakers away from the monitor.
Make sure there are no flourescent light fixtures close to the monitor.
Try to keep monitor away from large metal structures, power poles, fans and metal carts.
Check for other devices that may be causing magnetic interference.
Is picture displayed normally?
NO
YES
END
It is need to check and repair the monitor.

General Troubleshooting Guide

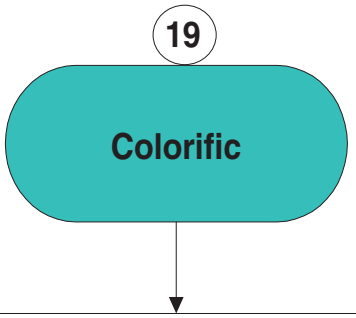



17
A buzzing sound when powering on
This sound is caused when the auto degaussing circuit is active. This buzzing sound is normal when the monitor is first turned on. This sound may be louder during the winter months and during initial power on.
OK
NO
YES
END
It is need to check and repair the monitor.

General Troubleshooting Guide



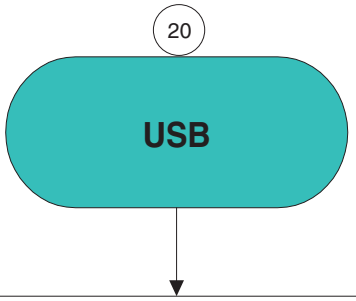
Features:
CustoMax for monitors is a software program for adjusting the screen geometry, color quality, image quality and hardware and software settings of your display.



Colorific is a color matching software that helps user match the monitor
and printer to fulfill the requirement of WYSIWYG (what you see is what you get) .
The Colorific software is the property of Sonnetech ,Ltd.
Only certain Philips monitor Models are equiped with the software.
If you have special interesting , please hit the web site "http:\www.colorific.com".

The compatibily problem with Windows :
Colorific 4.2 or below issued before Sept 98 cannot run in Win98.
Colorific 4.24 (CM5800) manufactured before May 1998 and issued by Feb 98 can support Win 98.
Colorific4.3 can fully support in Win 98

General Troubleshooting Guide

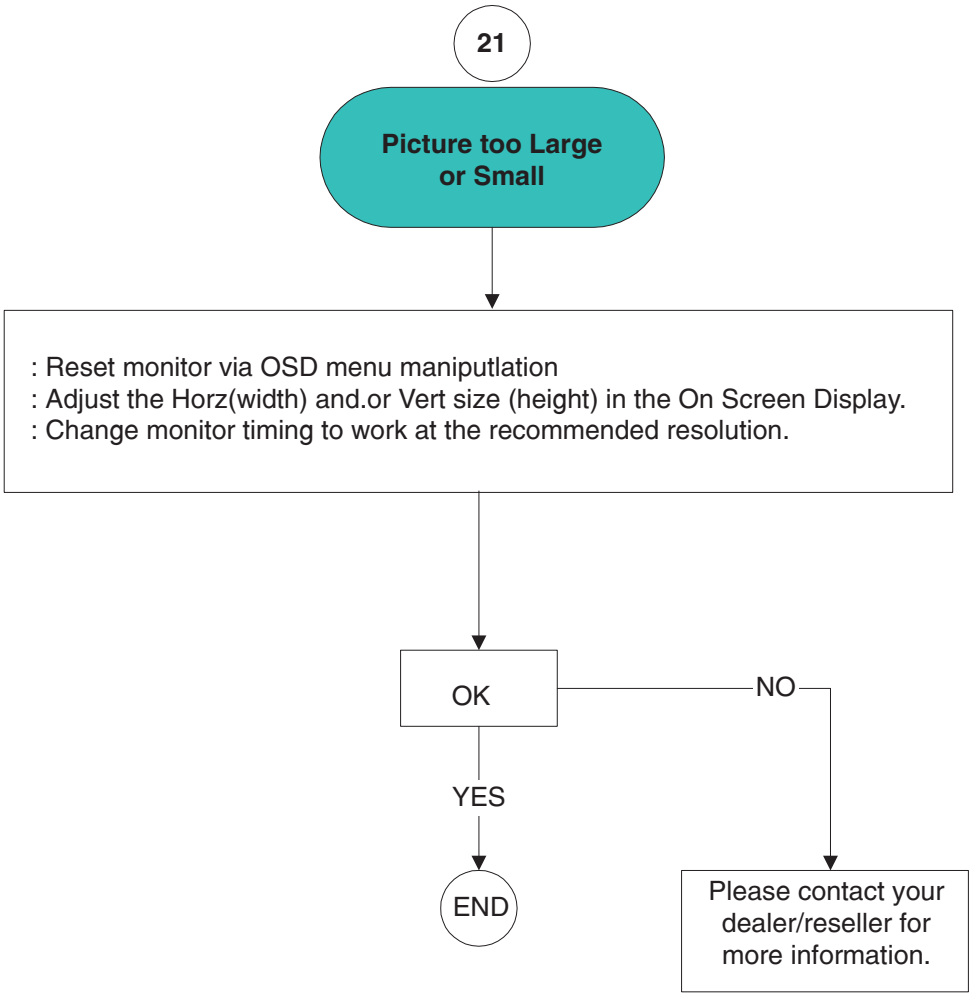


USB = Universal Serial Bus

USB automatically determines resources (like driver software and bus bandwidth) required by peripherals.
USB makes necessary resources available without user intervention.
It is designed to meet Microsoft Plug and Play (PnP) specification, meaning users can install, and hot-swap devices without long installation procedures and reboots.
It allows 127 devices to run at the same time on the bus.

USB bus provides two types of data transfer speed -- 1.5Mbps and 12Mbps and it can provide a maximum of 500mA of current to devices attached on the bus.
Universal means all peripherals share the same connector.
Serial simply defines devices can daisy chain together.
Universal Serial Bus 1.1, the de facto external connectivity standard for Mac and PC, has picked up the speed after its slow adoption by peripheral manufacturers, users and PC OEMs.

USB 2.0 :
Drafted by Compaq, Hewlett Packard, Intel, Lucent, Microsoft, NEC and Philips, USB Specification version 2.0 will increase device data throughout up to 480Mbps, 40 times faster than USB 1.1 devices.


21
Picture too Large or Small
: Reset monitor via OSD menu maniputlation
: Adjust the Horz(width) and.or Vert size (height) in the On Screen Display.
: Change monitor timing to work at the recommended resolution.
OK
NO
YES
END
Please contact your dealer/reseller for more information.